STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
DETROIT

JENNIFER M. GRANHOLM
GOVERNOR

STEVEN E. CHESTER
DIRECTOR

December 6, 2004

Mr. Garret E. Bondy
MACTEC Engineering and Consulting Inc.
46850 Magellan Drive, Suite 190
Novi, Michigan 48377

Dear Mr. Bondy:

SUBJECT: Revised Interim Response Plan for the Honeywell-Former Detroit Coke Corporation Property, Detroit, Michigan

The Department of Environmental Quality (DEQ) has reviewed the above mentioned document, received by this office on November 04, 2004. Although we agree with the concept of the plan and that it is meant to replace the activities presented in Subsections 3.2.6 through 3.2.9 of the 1999 ERM IRAP, in order to receive approval the following issues must be resolved.

- The objective of the IRP is to prevent groundwater above GSI from entering the Rivers. Furthermore, the IRP indicates that the Plan is designed to meet the requirements of R 299.5526(4)(d) and R 299.5716(14). These two rules basically require immediate action in the case of discharges that exceed acute levels. Considering these objectives, it is critical that the IRP address all areas where releases into the rivers are occurring. The available data indicate that ammonia above acute levels exists on both ends of trenches 1 and 2 that likely will not be captured by the trenches. This is particularly critical on the western end of trench 1. It is our opinion that this issue needs to be addressed either via extending the trenches or by including extraction wells that will extend beyond MW-109 and MW- 3, before the IRP can be approved.
- The trenches consist of vertically narrow zones at the desired dewatering depth. This approach should work in most cases. However, the DEQ is concerned that perched groundwater may circumvent this system. Honeywell needs to demonstrate that groundwater is not perched above the trenches and escaping the system?
- The system is based upon the presumption that groundwater can be treated and disposed offsite to the DWSD. Although this is likely the case, the IRP needs to include other disposal options in the event that the discharge to the DSDW is not accepted.
- The IRP does not include a commitment to source control measures (the use of the word "likely" on page 4-7). We agreed to take this Interim approach on the

presumption that source control measures would be implemented. It is the DEQ's opinion that source control measures are needed in order for Honeywell to meet the requirements of R 299.5526(5)(d) and subsequently for approval of the IRP.

- Although the monitoring plan is part of the IRP, we will provide comments on the plan separately with a second letter to follow within two weeks. Therefore, we will keep the approval of the IRP and the Monitoring Plan separate.
- In regards to the proposed schedule on Figure 13, a workplan for a RI/FS should be submitted at the start of the GSI Compliance Point Reassessment task.

If you have any questions regarding this matter, please contact me.

Sincerely,

Edward A. Novak

Edward A. Novak
Senior Environmental Quality Analyst
Remediation and Redevelopment Division
313-456-4668

cc: Ms. Dana Rzeznik, USEPA
Mr. Gregory Rudloff, USEPA
Mr. Tim Metcalf, Honeywell
Mr. Chuck Geadelmann, Honeywell
Mr. Alan Wasserman, Williams, Acosta
Mr. Raymond Scott, City of Detroit
Ms. Sharon Newlon, Dicksinson Wright
Mr. Grant Trigger, Honigman and Miller
Mr. Oladipo Oyinsan, DEQ
Mr. Steve Hoin, DEQ
Ms. Caroline Olmsted, DEQ
Mr. Peter Quackenbush, DEQ

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
DETROIT

JENNIFER M. GRANHOLM
GOVERNOR

STEVEN E. CHESTER
DIRECTOR

June 28, 2004

Mr. Timothy J. Metcalf
Honeywell, (AlliedSignal Inc.)
P.O. Box 1139
101 Columbia Road
Morristown, New Jersey 07962-1139

Mr. Will Timminga
Economic Development Corporation
500 Griswold, Suite 2200
Detroit, Michigan 48226

Dear Messers: Metcalf and Timminga:

SUBJECT: Liquid coal tar impacted soils and free product discovered during redevelopment activities. Interim Response Plan (IRP) for the Former Detroit Coke Corporation Property, Detroit, Michigan

The MDEQ has met with the EDC, on June 23, 2004; to discuss the handling of liquid coal tar impacted soils, free product and groundwater during construction activities during the redevelopment of the site. Under section 3.2.4 of the approved IRP, Honeywell has obligations to remove any point sources as they are discovered. In order to facilitate both the redevelopment and Honeywell's obligations, the MDEQ has approved the following protocols for Honeywell, the EDC and its contractors.

- Fill material visually impacted by free product (e.g., tars) that is predominantly soil can be removed and temporarily stored on site per Section 20120c (4) of Part 201. The temporary storage areas should prevent the loss of material via water or wind erosion shall protect against any unacceptable human contact and shall protect against mixing with the site soils beneath the temporary storage area.
- Fill material found to be predominantly free product shall be handled according to R 299.5542 of Part 201. If the product is found to be hazardous waste under Part 111, then it must be handled accordingly. This entails storage in proper containers and processing and handling within the time frames outlined in Part 111. If the product is determined to be non-hazardous under Part 111, then the product must be contained on site and disposed off site by Honeywell in a manner consistent with Part 201.
- Any groundwater removed during dewatering activities for construction shall be handled according to R 323.2210(e). We interpret this to mean that the groundwater is to be pumped to an area immediately upgradient of the excavation

areas. The water is to be contained locally and cannot runoff to adjacent areas. Alternately, the water can be transported offsite to be treated and disposed by Honeywell.

- Free product found on top of the groundwater in an excavation to be dewatered will be removed and handled either utilizing an oil water separator system or a fractionation tank or some approved alternative. The separated product must be handled and disposed by Honeywell according to applicable rules and regulations (e.g., Part 111). The remaining water can be handled as groundwater and discharged immediately upgradient of the dewatering area.

If you have any questions regarding this matter, please contact me.

Sincerely,

Edward A. Novak

Edward A. Novak
Senior Environmental Quality Analyst
Remediation and Redevelopment Division
313-456-4668

drs

cc: Ms. Kim Kessler-Arnold, MACTEC Engineering and Consulting, Inc., 46850 Magellan Drive, Suite 190, Novi, MI 48377
Ms. Dana Rzeznik, USEPA
Mr. Gregory Rudloff, USEPA
Mr. Alan Wasserman
Mr. Raymond Scott
Ms. Sharon Newlon
Mr. Oladipo Oyinsan, DEQ
Mr. Steve Hoin, DEQ
Ms. Caroline Olmsted, DEQ
Mr. Pete Quackenbush, DEQ

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
DETROIT

JENNIFER M. GRANHOLM
GOVERNOR

STEVEN E. CHESTER
DIRECTOR

May 19, 2004

Mr. Timothy J. Metcalf
Honeywell, (AlliedSignal Inc.)
P.O. Box 1139
101 Columbia Road
Morristown, New Jersey 07962-1139

Dear Mr. Metcalf:

SUBJECT: Final Scope of Work (SOW) for Revised Remedial Approach for the Former Detroit Coke Corporation Property, Detroit, Michigan

The MDEQ has reviewed the above mentioned document received via facsimile on May 6, 2004 from your consulting firm MACTEC. As previously stated in an e-mail to MACTEC on May 18, 2004, the SOW is approved with the following comments and understandings.

The SOW states that the work is designed to address the groundwater plumes and the source area soils. Yet, the investigation only includes groundwater investigation activities associated with the interim response action (the trenches). This should not be a problem as long as Honeywell understands that further investigation will be needed to characterize the groundwater plumes nearer the Rivers.

The Work plan proposes to determine the foc for soils at the site in an effort to determine site specific criteria. The DEQ has developed guidance regarding how to sample for foc (this document has been sent to MACTEC via fax). The foc samples must be collected in unimpacted native soils. This may be very difficult to accomplish at this site and this investigation activity will need to be scrutinized closely.

The SOW proposes to use temporary wells to characterize the groundwater in the vicinity of the trenches. Apparently the well screens may end up being more that 5 feet in length. If the well screens are longer than 5 feet it may prove difficult use these as compliance or monitoring wells (if that is anticipated).

If you have any questions regarding this matter, please contact me.

Sincerely,

Edward A. Novak
Senior Environmental Quality Analyst
Remediation and Redevelopment Division
313-456-4668

drs

cc: Ms. Kim Kesler-Arnold, MACTEC, 46850 Magellan Drive, Suite 190, Novi, MI 48377
Ms. Dana Rzeznik, USEPA
Mr. Gregory Rudloff, USEPA
Mr. Alan Wasserman
Mr. Raymond Scott
Ms. Sharon Newlon
Mr. Oladipo Oyinsan, DEQ
Mr. Steve Hoin, DEQ
Ms. Caroline Olmsted, DEQ
Mr. Pete Quackenbush, DEQ

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING

JENNIFER M. GRANHOLM
GOVERNOR

STEVEN E. CHESTER
DIRECTOR

December 4, 2003

Mr. Timothy J. Metcalf
Honeywell International, Inc.
101 Columbia Road
P.O. Box 1139
Morristown, New Jersey 07962-1139

Dear Mr. Metcalf:

SUBJECT: Response to the Follow-up to the Meeting on September 29, 2003, and to the Letter Received From Honeywell Dated October 14, 2003, for the Former Detroit Coke Facility, Detroit, Michigan

The Michigan Department of Environmental Quality (MDEQ) has reviewed your follow-up letter, dated October 2, 2003, which summarized the meeting with Mr. Edward Novak and Mr. Steven Hoin held at the Southeast Michigan District Office on September 29, 2003. We have also reviewed your letter of October 14, 2003, which included the 30% Design Submittal (Plan) for the soil-bentonite-cement (SBC) barrier interim response at the Former Detroit Coke facility (Facility).

The Plan meets the requirements of the Administrative Order by Consent for Response Activity (AOC) for the Facility with the understanding that the Plan will include the changes agreed upon up through the August 4, 2003, MDEQ correspondence, including chemical monitoring. The MDEQ also acknowledges that complications remain with regard to the wall alignment, which Honeywell International, Inc. (Honeywell), will need to resolve with the property owners prior to approval of this approach.

Alternatively, the MDEQ is willing to modify the AOC to replace the SBC barrier with the proposed hydraulic control and hot spot remediation approach, provided that the proposed system can be operating by March 2005 in a protective and reliable manner. If Honeywell chooses to modify the AOC, the interim response activity would be based upon a performance standard that would include the prevention of groundwater discharge to the Detroit and Rouge Rivers at levels above the groundwater surface water interface (GSI)-based criteria.

Data show that ammonia is exiting the Facility at the GSI compliance point at levels above the calculated Final Acute Value and is therefore considered acutely toxic. R 299.526(4) of the Part 201 Administrative Rules indicates that interim response activities are presumptively determined to be necessary in certain circumstances, including if there is a release to surface water, either directly or through venting groundwater, that is acutely toxic. A person subject to Section 20114 of Part 201,

Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, shall initiate interim response activities immediately upon obtaining information reasonably supporting the conclusion that this condition exists. The MDEQ considers the information available in our files to be sufficient to meet this rule requirement. Therefore, it is imperative that either the SBC barrier or the hydraulic control and hot spot remediation approach be implemented as soon as feasible. Further, given Honeywell's stated preference of the hydraulic control option, the construction of a robust hydraulic barrier along the rivers, which will presumptively capture all groundwater above the applicable GSI criteria, may be the best way of addressing this violation. This type of robust system could then be operated immediately and potentially reduced in stages as the Facility is remediated.

If Honeywell elects to modify the AOC and utilize the hydraulic control and hot spot remediation approach, a work plan must be submitted to the MDEQ within thirty days of receipt of this letter for review and approval. Modification of the AOC can follow a parallel track, and the MDEQ can provide Honeywell with proposed language for modification of the AOC. However, if Honeywell chooses to implement the SBC barrier as currently provided in the AOC, the 70% Design Plan is due within 30 days of receipt of this letter.

Any questions should be directed to Mr. Edward Novak, Southeast Michigan District/Detroit Office, at 313-456-4668.

Sincerely,

Andrew W. Hogarth, Chief
Remediation and Redevelopment Division
517-335-1104

cc: Ms. Dana Rzeznik, United States Environmental Protection Agency
Mr. Gregory Rudloff, United States Environmental Protection Agency
Mr. Raymond Scott, City of Detroit
Mr. Alan Wasserman, Fink, Zausmer & Kaufman, PC
Ms. Sharon Newlon, Dickinson Wright PLLC
Mr. Oladipo Oyinsan, MDEQ
Ms. Caroline Olmsted, MDEQ
Mr. Edward Novak, MDEQ
Mr. Steven Hoin, MDEQ
Mr. Peter Quackenbush, MDEQ

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING

JENNIFER M. GRANHOLM
GOVERNOR

STEVEN E. CHESTER
DIRECTOR

September 26, 2003

Mr. Timothy J. Metcalf, Project Manager
Remediation and Evaluation Services
Honeywell International, Inc.
P.O. Box 1139
Morristown, New Jersey 07962-1139

Dear Mr. Metcalf:

SUBJECT: Former Detroit Coke Facility, Detroit, Wayne County, Michigan

We received your September 5, 2003, letter in which you, on behalf of Honeywell International, Inc. (Honeywell), expressed concerns about Honeywell's ability to construct a containment wall, given the placement and construction of the bulkhead or sea wall currently being built by the Economic Development Corporation of the City of Detroit (EDCD).

While we appreciate your frustration, Honeywell has had since October 2002, when the sea wall specifications became available, to work out or work around these conflicts. Additionally, the Michigan Department of Environmental Quality (MDEQ) advised Honeywell at the May 16, 2003, meeting that the containment wall could be placed 19 feet further away from the Detroit River, if necessary, to adjust for the sea wall tie-backs.

The MDEQ's position remains that the containment wall must be installed during the 2004 construction season. Therefore, Honeywell needs to submit its 30 Percent Design Plan Report to assure completion of construction of the containment wall in 2004. Recently, the MDEQ requested Honeywell's submittal of the 30 Percent Design Plan Report within 30 days of the receipt of its August 4, 2003, letter to Honeywell. Therefore, the MDEQ now considers the submittal late, and suggests that Honeywell submit the 30 Percent Design Plan Report as soon as feasible.

The containment wall or other MDEQ-approved interim response consistent with the Interim Response Plan needs to be constructed in a way that maintains its integrity and is consistent with the prospective remedial action plan. Honeywell and the EDCD, in conjunction with the City of Detroit, must address these issues together.

It is unlikely that the MDEQ would consider this situation as a *force majeure*, as the situation was both preventable and foreseeable. In fact, this issue has been the topic of discussion between the three parties for several years.

We suggest that Honeywell focus substantial effort to resolve its issues with the EDCD and push this remedial effort forward.

Sincerely,

Andrew W. Hogarth, Chief
Remediation and Redevelopment Division
517-335-1104

cc: Mr. Will Tamminga, EDCD
Mr. Alan D. Wasserman, Williams Acosta, PLLC
Mr. Allen Melcer, U.S. Environmental Protection Agency
Mr. S. Peter Manning, Michigan Department of Attorney General
Ms. Patricia A. McKay, MDEQ
Mr. Edward Novak, MDEQ

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
DETROIT

JENNIFER M. GRANHOLM
GOVERNOR

STEVEN E. CHESTER
DIRECTOR

August 4, 2003

Mr. Timothy J. Metcalf
Honeywell, (AlliedSignal Inc.)
P.O. Box 1139
101 Columbia Road
Morristown, New Jersey 07962-1139

Dear Mr. Metcalf:

SUBJECT: Design Plan Report Issues for the Former Detroit Coke Corporation Property, Detroit, Michigan

The Michigan Department of Environmental Quality (MDEQ) has reviewed the above mentioned report, received by this office on June 30, 2003, and has presented your response to chemical monitoring inside and outside the barrier wall to the Field Operations Quality Review Team. The decision was made that chemical monitoring is required on both sides of the barrier wall, and should be included in the Operation and Maintenance Portion of your Final Design Plan. Please submit your 30% Design Plan for review by the MDEQ within 30 days of receipt of this letter as per your revised schedule.

The MDEQ understands your concerns in regards to the chemical monitoring; however we feel that the monitoring will assist the MDEQ and Honeywell in regards to evaluating the barrier wall's integrity, and support future phases in the RAP process. The MDEQ believes that chemical monitoring will provide baseline data to evaluate the significance of any changes identified in the future, show patterns and trends over space and time, and will be helpful for the future remedial investigations associated with the final RAP. It should be noted that we do not consider these monitoring points as groundwater-surface water interface compliance points, and that data interpretation from these wells will only be part of an overall review of available information in determining the barrier wall integrity. It should be further noted that after a literature search we found confirming evidence that chemical monitoring is an industry standard for barrier walls. (USEPA, Office of Solid Waste and Emergency Response (5102G), EPA 542-R-98-005 August 1998)

If you have any questions regarding this matter, please contact Mr. Edward A. Novak of this office at (313) 456-4668.

Sincerely,

Edward A. Novak
Senior Environmental Quality Analyst
Remediation and Redevelopment Division
313-456-4668

drs

cc: Ms. Dana Rzeznik, USEPA
~~Mr. Gregory Rudloff~~, USEPA
Mr. Alan Wasserman
Mr. Raymond Scott
Ms. Sharon Newlon
Mr. Oladipo Oyinsan, DEQ
Mr. Steve Hoin, DEQ
Ms. Caroline Olmsted, DEQ
Mr. Pete Quackenbush, DEQ

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
DETROIT

JENNIFER M. GRANHOLM
GOVERNOR

STEVEN E. CHESTER
DIRECTOR

May 20, 2003

Mr. Timothy J. Metcalf
Honeywell, (AlliedSignal Inc.)
P.O. Box 1139
101 Columbia Road
Morristown, New Jersey 07962-1139

Dear Mr. Metcalf:

SUBJECT: Response to MDEQ Comments on the Design Plan Report for the Former Detroit Coke Corporation Property, Detroit, Michigan

The MDEQ has reviewed the above mentioned document, received by this office on April 25, 2003. Our review, along with our teleconferences on May 13, 2003 and May 15, 2003, have reduced our differences to several issues. The MDEQ asserts that:

- Chemical monitoring is necessary both inside and outside the SBC wall along with any hydrogeological monitoring.
- Multiple vertical monitoring points are necessary at each monitoring location along the SBC wall.
- The target performance standard should be a differential of 1-foot or greater for the inward gradient across the SCB wall.

The MDEQ continues to assert that chemical monitoring is needed to monitor the effectiveness of the SBC wall, and should be an integral part of any Monitoring Plan. This can be considered an industry standard and is necessary for the MDEQ to evaluate the long term integrity of the system.

The MDEQ has indicated that multiple vertical monitoring points are needed at each monitoring location. The well screens should be placed within the lower sand zone, when present, and within the upper fill zone whenever present because these zones can be considered hydrogeologically unique. The MDEQ recommends that Honeywell consider utilizing stilling wells and monitoring points between the containment wall and the sheet pile to better understand the hydrogeological conditions outside of the SCB wall.

Finally, the MDEQ considers a one foot differential in inward gradient across the SBC wall to be a minimum performance standard for operation of the system. This is a reasonable industry standard and will allow for effective operation of the system with limited risk of failure. Details regarding the consequences associated with a failure to meet this standard have yet to be agreed upon.

All of these remaining differences are requirements for monitoring at the facility. The MDEQ requests that Honeywell either place the monitoring components in a separate section of the Design Plan Report or develop a discrete draft monitoring plan. In either case, the document should include the basic details needed to understand the proposed monitoring approach. Additionally, Honeywell should provide either justifications for or modifications of its approaches to these disputed monitoring items within thirty days to the MDEQ. Upon receipt, this documentation will be taken to the management team for a final decision.

If you have any questions regarding this matter, please contact Mr. Edward A. Novak of this office at (313) 456-4668.

Sincerely,

Edward A. Novak
Senior Environmental Quality Analyst
Remediation and Redevelopment Division
313-456-4668

drs

cc: Mr. Oladipo Oyinsan, DEQ
Mr. Steve Hoin, DEQ
Ms. Caroline Olmsted, DEQ
Mr. Pete Quackenbush, DEQ
Ms. Dana Rzeznik, USEPA
[redacted], USEPA
Mr. Alan Wasserman
Mr. Raymond Scott
Ms. Sharon Newlon

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING

JENNIFER M. GRANHOLM
GOVERNOR

STEVEN E. CHESTER
DIRECTOR

March 18, 2003

Mr. Timothy J. Metcalf
Honeywell, (AlliedSignal Inc.)
P.O. Box 1139
101 Columbia Road
Morristown, New Jersey 07962-1139

Dear Mr. Metcalf:

SUBJECT: Barrier Alignment Design Verification Including the Outboard Alignment, Subsurface Investigation and Geotechnical Report for the Former Detroit Coke Corporation Property, Detroit, Michigan

The MDEQ has reviewed the above mentioned report, received October 2, 2002 and has entered it into the administrative record. Please make available on the web site.

If you have any questions regarding this matter, please contact Mr. Edward A. Novak of this office at (313) 456-4668.

Sincerely,

Edward A. Novak
Senior Environmental Quality Analyst
Remediation and Redevelopment Division
313-456-4668

cc: Mr. Oladipo Oyinsan, DEQ
Mr. Steve Hoin, DEQ
Ms. Caroline Olmsted, DEQ
Mr. Pete Quackenbush, DEQ
Ms. Dana Rzeznik, USEPA
Mr. Gregory Rudloff, USEPA
Mr. Alan Wasserman
Mr. Raymond Scott
Ms. Sharon Newlon

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
DETROIT

JENNIFER M. GRANHOLM
GOVERNOR

STEVEN E. CHESTER
DIRECTOR

March 18, 2003

Mr. Timothy J. Metcalf
Honeywell (AlliedSignal Inc.)
P.O. Box 1139
101 Columbia Road
Morristown, New Jersey 07962-1139

Dear Mr. Metcalf:

SUBJECT: Design Plan Report for the Former Detroit Coke Corporation Property, Detroit, Wayne County, Michigan

The Michigan Department of Environmental Quality (MDEQ) has reviewed the above mentioned report, received on February 10, 2003 by this office. Our review has brought up the following issues and discussion points that we need to come to agreement on before the document can be approved. These issues and discussion points are a compilation of comments from MDEQ staff and the MDEQ's consulting engineer for this project, Malcolm Pirnie.

1. The last sentence in the fifth bullet in Section 1.1 on page 3 needs to be removed from the document. The issue of the groundwater outside of the barrier wall will be taken up in the Remedial Investigation/Feasibility Study (RI/FS) phase, which will follow after completion of the Interim Response Action Plan (IRAP).
2. In Section 2.3.2 the Barrier Type and Alignment we have the following comments:
    - The City of Detroit has bid the new seawall with tiebacks extending to approximately 100 feet inboard. We have recommended to the City that the tiebacks be as short as practical, however Honeywell needs to thoroughly discuss this issue with the City and adjust the barrier alignment appropriately.
    - An additional pair of piezometers needs to be placed at the far northwestern end of the SBC wall, as is already planned for the far northeastern end. We feel these piezometers are needed to determine potential seepage around the barrier.
    - Although the potential may be low, there should be a discussion and plan of action for auger refusal during wall installation.
3. In Section 2.3.4 Trench Stability the Parsons Design Team (PDT) states that the SCB barrier will remain stable under vertical load, and road and rail crossings, utility penetrations, and shallow foundations may be sited without concern for

deep stability. However in the draft Deed Restrictions road and/or railroad crossings are said to need special support systems, please clarify. We also need to know the actual vertical load capability and at what load additional structural support is needed.

4. The design team should consider maintaining the slurry level in the trench to within 24 inches from the top of the working pad to minimize the risk of surface sloughing of the granular fill soils into the trench during excavation.
5. The design team should also define the minimum viscosity, minimum slurry density, maximum sand content, maximum filtrate loss, and maximum pH for slurry in the trench and at the batch plant and/or slurry pond. These values shall be measured and maintained at least every 4 hours. The details of the recommended QC/QA testing for the slurry trench are summarized in Table 1. (see attached)
6. At least one set of samples should be collected for compressive strength testing for each construction day. The samples should consist of at least 5 cylinder samples with a minimum of one cylinder tested at 7, 14, and 28 days. The samples shall be collected at various heights including the top 25% of the panel, the middle, and the bottom 25%.
7. In Section 2.3.5 the PDT discusses removing the lime based material from the barrier wall profile, but there is no mention of the final disposition of the material. Please explain.
8. Section 2.4 Barrier Mix Compatibility Testing. We suggest that the permeability of a backfill sample should be tested at least once per week using a constant head flexible wall permeameter with permeant consistent with the site groundwater. The samples should not be limited to the middle of the wall but should be varied to include samples from the top 25% of the wall, the middle, and bottom 25%. The sample should be prepared as similar to concrete cylinder samples described in ASTM C31 and aged 28 days prior to testing. The samples should also be tested as soon as possible after removing from curing room or tank.
9. Section 2.5.1.5 Verticality. Again a contingency plan is needed in case of auger refusal or obstacles.
10. Section 2.6.2.1 Field Testing Program. The field program should include the measurement of the auger advancement rates for every 5 ft of advancement of the DSM rig, as well as the start time and end time for each panel. Based on these field measurements and the batch plant calibration details, the quality assurance team should prepare a record of the cement content for each panel, which should be included in the as-built report. The cement content should also be measured for select samples as defined on Table 1.
11. Section 2.6.2.3 Please explain whether the wall permeability will be affected because the hydraulic gaps are being filled once the SCB wall material has cured.

12. Section 2.7.2 Utility Penetrations. The low-permeability fill at utility penetrations should be placed at a minimum distance of 3 m (10 ft) on each side of the barrier rather than 1.5 m (5 ft). The low permeability backfill used for all utility penetrations should be tested prior to use and approved by the design team.

13. Section 2.7.3 Reinforced Concrete Cap Over Barrier. The drawings show a reinforced zone of wall all along the Lafarge frontage. What type of reinforcement is being provided? Why? Is this reinforcement needed for the other parcels, if not, why not?

14. Section 2.7.3 Reinforced Concrete Cap Over Barrier. Does a frost cap need to be placed over the alignment of the barrier (at areas other than railway and road crossings) to minimize the effect of freeze-thaw effects on the permeability of the SCB wall? If not, permeability testing should be performed on at least one additional sample during the compatibility testing program that is exposed to at least 10 freeze-thaw cycles. The results of this testing will show the effects of freezing and thawing on the permeability of the SCB wall that exists within the frost penetration zone.

15. Section 3.2.4 Model Modifications. Out review suggests that the model is not sufficient to represent site conditions. The model could very easily result in an overestimate of the extraction rate from the system. As a result, it is very possible that the extraction well separation will be too large and result in insufficient capture in some areas. In order to overcome this problem we recommend that the number of monitoring points be increased. Monitoring well clusters utilizing wells with short well screens (5 feet) should be placed adjacent to or near the extraction wells and at points ½ way between each extraction well (already proposed). The wells should be screened near the base of the extraction well screens and near the expected top of groundwater and at points where hydraulic barriers may affect the groundwater head. Honeywell could also propose additional modeling, however; this would need to be acceptable to the MDEQ's modeler.

16. Section 3.2.5.1 Inward Gradient Control. The expected performance standard for the system will be to maintain a one-foot differential between adjacent inner and outer piezometers. In addition, some type of response plan for addressing failure will be needed.

17. Section 3.3.2 General Comparative Assessment of Groundwater Data. The report states that the elevated contaminant concentrations measured by ERM in 1999 were due to the concurrent operation of pumping tests that drew contaminants into the wells. If this were correct, we would expect a similar experience with extraction wells. If so, how will the groundwater treatment system be designed to address this potential shock or long-term loading scenario? The report also states that PCBs were detected in groundwater during the 1998 sampling (1 ug/l of Beta-BHC in MW-101). In reality, no PCB's were detected. Beta-BHC was detected in MW-101, but it is a pesticide. The report states that no pesticides were detected. However, Beta-BHC was detected as previously stated.

18. Section 3.5.3.3 Acid Addition (pH Adjustment). The report states that the acid dosage prior to air stripping is 300 to 500 mg/l to reduce pH from 8.1 to 6.1. We believe the units are incorrect and that the acid dosage is estimated to be 300 to 500 ml/min [66 Baume (93%) sulfuric acid] based on the reported metering pump capacity.

19. Section 4.2.1.1 Extraction Trenches. We recommend against the use of geotextile to line the sides of the excavation or small diameter perforated pipe (4-inch diameter or less). Based on our contractor's experience geotextile and small diameter perforated pipes tend to clog with iron and bacteria in a relatively short timeframe, which greatly reduces the flow rates into the drains. We recommend an alternate drain design consisting of a larger pipe (6 inch or 8 inch diameter) surrounded by drainage stone. The stone and the pipe perforations should be properly sized to minimize clogging. If a filter sand is required to minimize clogging of drainage stone, the trench should be constructed with a wider dimension (i.e., a 24-inch drainage layer sandwiched between two 12-inch filter layers). The top of the drain should extend up to the water table surface and should be covered with the filter sand or geotextile followed by a compacted clay cap. The drain pipe should also be equipped with clean-outs to allow periodic cleaning of the pipes.

20. Section 4.2.1.2 Extraction Wells. Figure 4.3 shows a 1-inch diameter discharge pipe attached to the pitless adapter. Why was this size chosen for the piping as opposed to 1.25 or 1.5 inches? It seems a larger discharge pipe and submersible pump would allow for increased capacity if flow rates through the wall were greater than anticipated.

21. Section 5.0 Proposed Approach to the Monitoring Plan. The Plan proposes to use paired piezometers at critical locations along the wall. We agree with this concept, however; as discussed previously, additional monitoring points will be needed. In addition, the monitoring plan needs to incorporate other methods. The monitoring system should include: A) monitoring of the river level via stilling wells to understand the hydraulics between the wall and the river, B) monitoring of the water level from within the central area of the capture zone to be able to assist in understanding the water balance at the site C) monitoring of the treatment system influent and effluent rates and chemical concentrations, and D) chemical monitoring both inside and outside of the wall to verify that the system is effective. A detailed monitoring plan should be included as part of the final design plan. An Operations and Maintenance Plan will also be required as part of the IRAP and should be provide as part of the final design plan. These plans can be submitted separately to the DEQ for review.

22. Section 5.2 Overview of the Proposed Monitoring Approach. Please add the proposed monitoring well (piezometer) locations to Figure 4.1.

23. Section 7.1 Preliminary Drawing and Specifications List: Addition – Section 02395 – The materials section of this specification should define the approved bentonite and cement products. For bentonite, it is recommended that non-

polymerized sodium bentonite from Wyoming (i.e., Barakade) be considered as the one of the approved materials. Calcium bentonite is not recommended for use on this project. Addition – Section 02395 and 02396 – The quality control program should include the sampling and testing described above in Section 2.3.4 Trench Stability and Table 1.

Please respond to our comments within 30 days from receipt of this letter. If you feel that a meeting or teleconference would be beneficial or if you have any questions regarding this matter, please contact me.

Sincerely,

For Edward Novak

Edward A. Novak,
Senior Environmental Quality Analyst
Detroit Field Office
Remediation and Redevelopment Division
313-456-4668

Enclosure
cc/enc: Ms. Dana Rzeznik, USEPA
Mr. Gregory Rudloff, USEPA
Mr. Alan Wasserman, Fink Zausmer, PC
Mr. Raymond Scott, City of Detroit
Ms. Sharon Newlon, Dickinson Wright
Mr. Peter Quackenbush, DEQ
Ms. Caroline Olmsted, DEQ
Mr. Oladipo Oyinsan, DEQ
Mr. Steve Hoin, DEQ

Table 1 – Recommended QC/QA Testing for SCB Slurry Wall

Subject	Test Standard	Type of Test	Frequency
QA and QC Testing (Conducted by Consultant and Contractor)			
Water	N/A	pH	1 per source
	N/A	Total Hardness	N/A
	N/A	Calcium	N/A
	N/A	Suspended solids	1 per source
Bentonite	API Std. 13A	Certificate of Compliance	1 per Bentonite Shipment
Slurry: Ponds	API Std. 13B	Apparent Viscosity	2 per day
	ASTM D4380	Density	2 per day
	API Std. 13B	Filtrate Loss	2 per day
	N/A	pH	2 per day
Slurry: In Trench	API Std. 13B	Viscosity	2 per day
	ASTM D4380	Density	2 per day
	API Std. 13B	Filtrate Loss	2 per day
	N/A	pH	2 per day
	ASTM D4381	Sand Content	2 per day
SCB Backfill (with Slurry)	ASTM C143	Slump Cone	2 per day
	ASTM C566	Water Content	2 per day
	N/A	Density	2 per day
	ASTM D2166	Compressive Strength (7, 14 and 28 day)	per 1200 Cu m placed or once per week
	ASTM D806	Cement Content	per 1000 Cu m placed or twice per week
	N/A	Homogeneity of Mix	continuous
Trench Configuration	N/A	Depth Sounding	per 5 m of excavation
	N/A	Position of Equipment	per 5 m of excavation
	N/A	Distance of Toe of Slope to Excavation	per 5 m of excavation
	N/A	Bottom Stratigraphy	continuous

Table 1 – Recommended QC/QA Testing for SCB Slurry Wall (cont.)

Subject	Test Standard	Type of Test	Frequency
Additional QA Testing (Conducted by Consultant)			
Compacted Working Platform	ASTM D698	Standard Moisture-Density Relationship	1 compaction curve every 2 working days
	ASTM D2922	Density by Nuclear Methods	3 per 50 m stationage/compacted lift
	ASTM D3017	Water Content by Nuclear Methods	3 per 50 m stationage/compacted lift
Select Excavated Materials Imported to Site	ASTM C117	Material Finer than 75 um	per 1500 cu m stockpiled
	ASTM C136	Sieve Analysis of Fine and Coarse Aggregate	per 1500 cu m stockpiled
	ASTM C566	Water content	per 1500 cu m stockpiled
SB Backfill (with no Slurry)	ASTM D422	Hydrometer Analysis	per 500 cu m stockpiled
	ASTM C136	Sieve Analysis of Fine and Coarse Aggregate	per 500 cu m stockpiled
	ASTM C566	Water content	per 500 cu m stockpiled
SB Backfill (with Slurry)	ASTM D5084	Hydraulic Conductivity (28 day hardening)	per 1200 Cu m placed or once per week

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING

JENNIFER M. GRANHOLM
GOVERNOR

STEVEN E. CHESTER
DIRECTOR

March 11, 2003

Mr. Garry Ostrander
Lafarge North America
Great Lakes Region
4000 Town Center, Suite 2000
Southfield, Michigan 48075

Dear Mr. Ostrander:

SUBJECT: Work Plan for Response Activities, Compliance Analysis Plan, and Distinguishing New Releases Demonstration and Environmental Safety and Contingency Plan for the Proposed Lafarge Parcel at the Former Detroit Corporation Site, 7819 Jefferson Avenue, Detroit, MI

The MDEQ has reviewed the above mentioned documents received first via e-mail on February 19, 2003 and finally in hardcopy on March 7, 2003. The hardcopy draft document is approved as written and will now be considered as a final version.

If you have any questions, please call Edward A. Novak at 313-456-4668.

Sincerely,

Edward A. Novak
Senior Environmental Quality Analyst
Remediation and Redevelopment Division
313-456-4668

Cc: Mr. Steven Kitler, DEQ
Ms. Caroline Olmsted, DEQ
Mr. Pete Quackenbush, DEQ
Ms. Dana Rzeznik, USEPA
Mr. Gregory Rudloff, USEPA
Mr. Alan Wasserman
Mr. Raymond Scott
Ms. Sharon Newlon
Mr. Steven Gach
Mr. Timothy Metcalf

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING

JENNIFER M. GRANHOLM
GOVERNOR

STEVEN E. CHESTER
DIRECTOR

February 3, 2003

Mr. Timothy J. Metcalf
Honeywell, (AlliedSignal Inc.)
P.O. Box 1139
101 Columbia Road
Morristown, New Jersey 07962-1139

Dear Mr. Metcalf:

SUBJECT: Revised Consent Order Schedule for the Former Detroit Coke Corporation Property

The MDEQ has reviewed the above mentioned document, received by this office on January 15, 2003. The document is approved as submitted with the understanding that Task ID #60, submittal to the MDEQ of the Design Plan Document, will occur on February 10, 2003. Please incorporate the revised schedule onto the ERMDCC website with the notation that Task #60 is due February 10, 2003.

If you have any questions regarding this matter, please contact Mr. Edward A. Novak of this office at (313) 456-4668.

Sincerely,

Edward A. Novak
Senior Environmental Quality Analyst
Remediation and Redevelopment Division
313-456-4668

cc: Mr. Oladipo Oyinsan, DEQ
Mr. Steve Hoin, DEQ
Ms. Caroline Olmsted, DEQ
Mr. Pete Quackenbush, DEQ
Ms. Dana Rzeznik, USEPA
Mr. Gregory Rudloff, USEPA
Mr. Alan Wasserman
Mr. Raymond Scott
Ms. Sharon Newlon

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING

JENNIFER M. GRANHOLM
GOVERNOR

STEVEN E. CHESTER
DIRECTOR

February 3, 2003

Mr. Timothy J. Metcalf
Honeywell, (AlliedSignal Inc.)
P.O. Box 1139
101 Columbia Road
Morristown, New Jersey 07962-1139

Dear Mr. Metcalf:

SUBJECT: Progress Report No. 38, Interim Response Plan for the Former Detroit Coke Corporation Property, Detroit, Michigan

The MDEQ has reviewed the Progress Report No. 38, received January 27, 2003 and has entered it into the administrative record.

If you have any questions regarding this matter, please contact Mr. Edward A. Novak of this office at (313) 456-4668.

Sincerely,

Edward A. Novak
Senior Environmental Quality Analyst
Remediation and Redevelopment Division
313-456-4668

cc: Mr. Oladipo Oyinsan, DEQ
Mr. Steve Hoin, DEQ
Ms. Caroline Olmsted, DEQ
Mr. Pete Quackenbush, DEQ
Ms. Dana Rzeznik, USEPA
Mr. Gregory Rudloff, USEPA
Mr. Alan Wasserman
Mr. Raymond Scott
Ms. Sharon Newlon

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING

JENNIFER M. GRANHOLM
GOVERNOR

STEVEN E. CHESTER
DIRECTOR

January 17, 2003

Mr. Timothy J. Metcalf
Honeywell International, Inc.
101 Columbia Road
P.O. Box 1139
Morristown, New Jersey 07962-1139

Dear Mr. Metcalf:

SUBJECT: Former Detroit Coke Facility, Detroit, Wayne County
Administrative Order by Consent (AOC), AOC-ERD-99-005

This letter summarizes the results of our meeting on January 9, 2003, between representatives of Honeywell International, Inc. (Honeywell) and the Michigan Department of Environmental Quality (MDEQ).

Honeywell agreed to proceed with the design of the soil-cement-bentonite (SCB) barrier, and provide the MDEQ by January 24, 2003, a schedule for implementing the Interim Response Plan (IRP) based on the installation of a SCB barrier. The schedule will be tied to the schedule for completion by other parties of the seawall at the property.

Additionally, the SCB barrier system design plan and the portion of the deed restrictions that are intended to maintain the effectiveness and integrity of the barrier system should be submitted to the MDEQ by February 10, 2003.

The IRP schedule and the Containment Wall Installation portion of the IRP in the AOC will be modified upon MDEQ approval of the schedule and SCB barrier system design.

If you have questions regarding this matter, please contact Mr. Edward Novak of the MDEQ's Southeast Michigan District Detroit Office at 313-456-4668.

Sincerely,

Andrew W. Hogarth, Assistant Chief
Remediation and Redevelopment Division
517-373-9838

cc: Mr. David Cooke, Honeywell
Ms. Dana Rzeznik, United States Environmental Protection Agency
Mr. Gregory Rudloff, United States Environmental Protection Agency
Mr. Raymond Scott, City of Detroit
Mr. Alan Wasserman, Williams Acosta PLLC
Ms. Sharon Newlon, Dickinson Wright PLLC
Mr. S. Peter Manning, Michigan Department of Attorney General
Mr. Jim Sygo, MDEQ
Mr. Oladipo Oyinsan, MDEQ
Mr. Edward Novak, MDEQ
Mr. Steve Hoin, MDEQ
Mr. Peter Quackenbush, MDEQ
Ms. Caroline Olmsted, MDEQ

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING

JOHN ENGLER
GOVERNOR

RUSSELL J. HARDING
DIRECTOR

November 27, 2002

Mr. Timothy J. Metcalf
Honeywell International, Inc.
101 Columbia Road
P.O. Box 1139
Morristown, New Jersey 07962-1139

Dear Mr. Metcalf:

SUBJECT: Soil-Cement-Bentonite (SCB) Barrier Proposal
Former Detroit Coke Facility, Detroit, Wayne County
Administrative Order by Consent, AOC-ERD-99-005

This letter has been prepared in response to the August 15, 2002 discussion between the Michigan Department of Environmental Quality (MDEQ) and Honeywell International, Inc. (Honeywell), subsequent meetings, and submittals concerning the proposed SCB barrier.

The Administrative Order by Consent (AOC) requires the performance of certain interim response activities. One of these interim response activities is installation, operation, and maintenance of a soil-bentonite (SB) barrier. Installation of the SB barrier has been postponed while issues with the City of Detroit regarding construction of a sea wall at the former Detroit Coke Facility were resolved. In the interim, Honeywell has proposed constructing a SCB barrier.

The MDEQ has determined that the SCB barrier is an acceptable alternative to the SB barrier. In fact, the proposed SCB barrier may have improved constructability and longer-term reliability than a SB wall, making it more comparable to the reliability that the MDEQ had originally anticipated for the poly-wall design concept that had been originally described but abandoned due to the depth ultimately needed for the SB barrier wall.

As discussed in our August 15, 2002 meeting, Honeywell will submit for MDEQ review and approval the following:

1. Within 30 days of receipt of this letter, a revised schedule for implementation of the elements of the Interim Response Plan (IRP) that have not been completed. These items include installation of the SCB barrier wall, installation and operation of the groundwater extraction and treatment system, storm water controls,

monitoring, institutional controls, and the final IRP report. The schedule should indicate that installation of the SCB barrier wall will be completed by September 30, 2003. The schedule in the AOC will be modified upon MDEQ approval of this revised schedule. We understand that Honeywell's implementation schedule for construction of the SCB barrier may need to be modified again based upon the progress of the sea wall construction.

2. Within 60 days of receipt of this letter, a SCB barrier system design plan, including, but not limited to:

   - Compatibility or pilot testing procedures.
   - Construction procedures to be used and specified.
   - A quality assurance plan.
   - Basic design details for the wall, including utility penetrations.
   - Basic design details for the groundwater extraction system, including all extraction well, sump or trench locations, piping, and monitoring points.
   - Basic design details of groundwater treatment processes, including anticipated flow rates.
   - Basic design details of any covers or caps.
   - Basic land balancing plans and concepts.
   - A proposed monitoring plan.

3. Within 60 days of receipt of this letter, the portion of the deed restrictions that are intended to maintain the effectiveness and integrity of the barrier wall. These deed restrictions are necessary in order for the MDEQ to assess the adequacy of the SCB barrier wall design. The SCB barrier wall may result in deed restrictions more conducive to the future use of the property than the SB barrier.

Since the issues regarding the sea wall construction have been resolved, the schedule in the AOC is no longer held in abeyance, and the deadlines for the submissions requested in this letter will be considered enforceable pursuant to the AOC, unless otherwise approved by the MDEQ. In the event Honeywell chooses to construct the SB barrier wall conceptually approved in the IRP, the same items required above for the SCB barrier wall will be required for the SB barrier wall, on the same schedule.

If you have questions regarding this matter, please contact Mr. Edward Novak of the MDEQ's Southeast Michigan District Detroit Office at 313-456-4668.

Sincerely,

Andrew W. Hogarth, Assistant Chief
Remediation and Redevelopment Division
517-373-9838

cc: Ms. Dana Rzeznik, United States Environmental Protection Agency
Mr. Gregory Rudloff, United States Environmental Protection Agency
Mr. Raymond Scott, City of Detroit
Mr. Alan Wasserman, Fink, Zausmer & Kaufman, PC
Ms. Sharon Newlon, Dickinson Wright PLLC
Mr. Arthur R. Nash Jr., Deputy Director, MDEQ
Ms. Lynn Y. Buhl, Director of Southeast Michigan Offices, MDEQ
Mr. Jim Sygo, MDEQ
Mr. Oladipo Oyinsan, MDEQ
Ms. Carrie Olmsted, MDEQ
Mr. Edward Novak, MDEQ
Mr. Steve Hoin, MDEQ
Mr. Peter Quackenbush, MDEQ

Cass Rudloff

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
DETROIT

JOHN ENGLER
GOVERNOR

RUSSELL J. HARDING
DIRECTOR

November 4, 2002

Mr. Timothy J. Metcalf
Honeywell, (AlliedSignal Inc.)
P.O. Box 1139
101 Columbia Road
Morristown, New Jersey 07962-1139

Dear Mr. Metcalf:

SUBJECT: Request for Concurrence Letter, Dated October 21, 2002 Regarding "R299.9503 Construction Permits and Operating Licenses: Exemptions-Rule 503" for the Former Detroit Coke Corporation Property, Detroit, Michigan

The MDEQ has reviewed the above mentioned submittal, received by this office on October 25, 2002. We are in agreement with the exemption noted in the October 21, 2002 letter from Honeywell. This exemption applies to wastewater treatment only. This means there should be no storage of the hazardous waster occurring as it comes out of the pipeline. Any tanks encountered must be treatment tanks.

Once there is a generated hazardous waste that leaves the area of concern, the generator requirements would apply. As indicated in the letter the hazardous waste groundwater would enter the pipeline directly from the collection trenches. This pipeline between the two sites needs to be secondarily contained (double-walled with leak detection), this would meet generator standards. Honeywell should make sure they meet their generator obligations in developing the conveyance.

If you have further questions regarding the exemption, please contact Mr. Larry Aubuchon of the Waste and Hazardous Materials Divisions of the MDEQ at 734-953-1401.

If you have any other questions regarding this matter, please contact Mr. Edward A. Novak of this office at (313) 456-4668.

Sincerely,

Edward A. Novak
Senior Environmental Quality Analyst
Remediation and Redevelopment Division
313-456-4668

cc: Mr. Oladipo Oyinsan, DEQ
Mr. Steve Hoin, DEQ
Ms. Caroline Olmsted, DEQ
Mr. Pete Quackenbush, DEQ
Mr. Larry Aubuchon, DEQ
Ms. Dana Rzeznik, USEPA
Mr. Gregory Rudloff, USEPA
Mr. Alan Wasserman
Mr. Raymond Scott
Ms. Sharon Newlon

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
DETROIT

JOHN ENGLER
GOVERNOR

RUSSELL J. HARDING
DIRECTOR

November 4, 2002

Mr. Timothy J. Metcalf
Honeywell, (AlliedSignal Inc.)
P.O. Box 1139
101 Columbia Road
Morristown, New Jersey 07962-1139

Dear Mr. Metcalf:

SUBJECT: Progress Report No. 35, Interim Response Plan for the Former Detroit Coke Corporation Property, Detroit, Michigan

The MDEQ has reviewed the Progress Report No. 35, received October 25, 2002 and has entered it into the administrative record.

If you have any questions regarding this matter, please contact Mr. Edward A. Novak of this office at (313) 456-4668.

Sincerely,

Edward A. Novak
Senior Environmental Quality Analyst
Remediation and Redevelopment Division
313-456-4668

cc: Mr. Oladipo Oyinsan, DEQ
Mr. Steve Hoin, DEQ
Ms. Caroline Olmsted, DEQ
Mr. Pete Quackenbush, DEQ
Ms. Dana Rzeznik, USEPA
Mr. Gregory Rudloff, USEPA
Mr. Alan Wasserman
Mr. Raymond Scott
Ms. Sharon Newlon

Honeywell
P.O. Box 1139
Morristown, NJ 07962-1139

October 21, 2002

Mr. Edward Novak
Project Coordinator
Southeast Michigan District, Detroit Office
Michigan Department of Environmental Quality
Cadillac Place
3058 West Grand Blvd, Suite 2-300
Detroit, Michigan 48202

Re: Request for Concurrence
"R299.9503 Construction Permits and Operating Licenses; Exemptions – Rule 503"
Associated with the Interim Response Plan for the Redevelopment of the
Former Detroit Coke Corporation Property, Detroit, Michigan
AOC#: AOC-ERD-99-005

Dear Mr. Novak:

Honeywell International Inc. (Honeywell) respectfully requests that the Michigan Department of Environmental Protection provide comment on the following issue related to the above referenced project.

As you are aware, Honeywell is developing a preliminary design for a groundwater treatment system for groundwater recovered from the Coke facility formerly operated by Honeywell at 7819 West Jefferson Avenue. This system is expected to convey untreated groundwater from the former Coke facility to a permitted wastewater treatment system that is operating on property owned by Honeywell at 1200 Zug Island Road (active coal tar product manufacturing operation).

Further, it is expected that contaminated groundwater will be collected from the Coke site through a series of interceptor trenches, which will be constructed in parallel to, and along the inward side of, the Contaminant Barrier Wall on the Coke site. The groundwater would then be conveyed to an upgraded/expanded wastewater treatment system located at 1200 Zug Island Road through an underground pipeline system that would begin at the Coke site, continue beneath Zug Island Road, and terminate at the wastewater treatment system located at 1200 Zug Island Road. Thereafter, untreated groundwater would be processed through the upgraded/expanded wastewater treatment system with the treated groundwater discharged to the Detroit Water and Sewerage Department's (DWSD) facility in compliance with permit limits, via a permitted outfall as defined in the Tar Plant's current permit with the DWSD.

Based on our review of Michigan's Environment Codified Regulations, specifically R299.9503(1)(f)(ii), Honeywell interprets the rule to allow for this configuration (operation of a groundwater collection system that is located on the former Coke property with the treatment system located on the property located at 1200 Zug Island Road) without an operating license for managing hazardous waste.

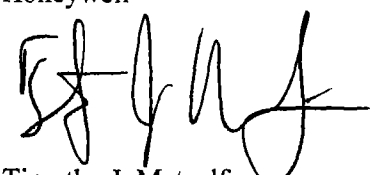
The specific reference notes that the exemption applies for "Owners or operators of wastewater treatment units, if the following conditions, as applicable, are complied with: (i) The units are subject to regulation pursuant to the provisions of section 420 or 370(b) of the federal clean water act (ii) The units are located on the site of a generator and do not treat hazardous waste from any other generators *unless the waste is shipped entirely by pipeline* or *the off-site generator has the same owners as the facility at which the unit is located.*" Since either or both of the emphasized criteria can be met by the proposed system, Honeywell has concluded that it can proceed with the construction and operation of the system without obtaining an operating license for managing hazardous waste.

While we believe that we have correctly interpreted the intent of this rule, Honeywell requests that MDEQ review same and provide a letter of concurrence to Honeywell.

If you have any questions, please feel free to contact me at (973) 455-4107 or via email at tim.metcalf@honeywell.com.

Sincerely,

Honeywell



Timothy J. Metcalf
Project Manager
Remediation & Evaluation Services

PDN:rrn
cc: Gordon Quin, Honeywell
Dave Cooke, Honeywell
Sam Visnic, Honeywell
Robert O'Brien, Honeywell Tar Plant
Steve Kuplicki, City of Detroit DWSD
Richard O'Conor, Minergy
Will Tamminga, DEGC
Paul D. Norian, Parsons
Mona D. Sutherland, Parsons
Reference R 299.9503 Construction Permits and Operating Licenses; Exemptions
d:\37671\MDEQ\Novak101802-exemption

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
DETROIT

JOHN ENGLER
GOVERNOR

RUSSELL J. HARDING
DIRECTOR

October 8, 2002

Mr. Timothy J. Metcalf
Honeywell, (AlliedSignal Inc.)
P.O. Box 1139
101 Columbia Road
Morristown, New Jersey 07962-1139

Dear Mr. Metcalf:

SUBJECT: Remedial Investigation Workplan, Yellow Freight Systems Facility 7701 West Jefferson, Associated with the Former Detroit Coke Corporation Property, Detroit, Michigan

The MDEQ has reviewed the above mentioned submittal, received by this office on September 23, 2002. This workplan incorporates suggestions given by the MDEQ via telephone earlier in September. The workplan is approved as written. Please provide notice at least five days prior to any field activity via email or written correspondence.

If you have any questions regarding this matter, please contact Mr. Edward A. Novak of this office at (313) 456-4668.

Sincerely,

Edward A. Novak
Senior Environmental Quality Analyst
Remediation and Redevelopment Division
313-456-4668

cc: Mr. Oladipo Oyinsan, DEQ
Mr. Steve Hoin, DEQ
Ms. Caroline Olmsted, DEQ
Mr. Pete Quackenbush, DEQ
Ms. Dana Rzeznik, USEPA
Mr. Gregory Rudloff, USEPA
Mr. Alan Wasserman
Mr. Raymond Scott
Ms. Sharon Newlon

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING

JOHN ENGLER
GOVERNOR

RUSSELL J. HARDING
DIRECTOR

August 12, 2002

Mr. Timothy J. Metcalf
Honeywell International, Inc.
101 Columbia Road
P.O. Box 1139
Morristown, New Jersey 07962-1139

Dear Mr. Metcalf:

SUBJECT: Implementation of the Interim Response Action Plan (IRP)
Former Detroit Coke Facility, Detroit, Wayne County

The Detroit Economic Growth Corporation provided Honeywell International, Inc. (Honeywell), with the schedule for the new seawall construction via e-mail on July 27, 2002. The Michigan Department of Environmental Quality (MDEQ) believes that Honeywell can now proceed with implementation of the IRP.

With this letter, the MDEQ is requesting that Honeywell proceed with the following tasks:

1. Submit for MDEQ approval a revised schedule for implementation of the elements of the IRP that have not been completed within 30 days of receipt of this letter. These items include installation of the containment wall; groundwater extraction and treatment system installation and operation; storm water controls; monitoring; institutional controls; and the final IRP report. The schedule should achieve installation of the containment wall during the summer of 2003.

2. Submit a containment wall design plan within 60 days of receipt of this letter for MDEQ review and approval. The containment wall design should be consistent with the industrial use of the property. The containment wall design plan should include a detailed description of how the integrity of the containment wall will be maintained based on the intended industrial use and should incorporate the elements of the MDEQ comments in the April 16, 2001 letter to Honeywell.

3. Submit with the containment wall design plan the deed restrictions that are intended to maintain the integrity of the containment wall. Providing the deed restrictions for this interim response will help the MDEQ in its assessment of the containment wall design plan. Please keep in mind that the property owners (who are likely to include Lafarge Midwest, Inc., and Cemex, Inc.) and easement holders must agree to the restrictions.

Since the seawall has been designed and Honeywell has been provided with the construction schedule, the issues that prompted delays in the design and construction of the containment wall have been resolved. Therefore, the schedule in the Administrative Order by Consent for Response Activity, AOC-ERD-99-005 (AOC), will no longer be held in abeyance. The deadlines for the submissions requested in this letter will be considered enforceable pursuant to the AOC, unless otherwise approved by the MDEQ.

If you have questions regarding this matter, please contact Mr. Edward Novak of the MDEQ's Southeast Michigan District Detroit Office at 313-456-4668.

Sincerely,

Andrew W. Hogarth, Acting Chief
Environmental Response Division
517-373-9838

cc: Ms. Dana Rzeznik, United States Environmental Protection Agency
Mr. Gregory Rudloff, United States Environmental Protection Agency
Mr. Raymond Scott, City of Detroit
Mr. Alan Wasserman, Fink, Zausmer & Kaufman, PC
Ms. Sharon Newlon, Dickinson Wright PLLC
Mr. Oladipo Oyinsan, MDEQ
Mr. Edward Novak, MDEQ
Mr. Steve Hoin, MDEQ
Ms. Carrie Olmsted, MDEQ
Mr. Peter Quackenbush, MDEQ

STATE OF MICHIGAN

JOHN ENGLER, Governor

DEPARTMENT OF ENVIRONMENTAL QUALITY

"Better Service for a Better Environment"

HOLLISTER BUILDING, PO BOX 30473, LANSING MI 48909-7973

INTERNET: www.deq.state.mi.us

RUSSELL J. HARDING, Director

REPLY TO:

DETROIT OFFICE
SUITE 3600
300 RIVER PLACE
DETROIT MI 48207

April 16, 2001

Mr. Timothy J. Metcalf
Honeywell, (AlliedSignal Inc.)
P.O. Box 1139
101 Columbia Road
Morristown, New Jersey 07962-1139

Dear Mr. Metcalf:

SUBJECT: Response to the MDEQ Comments by Honeywell on the Barrier Design Recommendation Report Associated with the Interim Remedial Measures for the Former Detroit Coke Corporation Property, Detroit, Michigan

The MDEQ has reviewed your comments received by this office on February 12, 2001. Our comments to the individually numbered responses are provided below. Although we may not be in full agreement with your responses to our December 21, 2000 letter, these are issues that will be ironed out in the Final Design Plan. Therefore please proceed with formulating the Final Design Plan with the new wall alignment as presented in the Barrier Design Recommendation Report. The Design Plan should include construction requirements and load limitations necessary for road and railroad crossings of the barrier. The MDEQ acknowledges that the IRP schedule will have to be adjusted in the future in order to compliment the redevelopment of the site.

1. We agree that use of the property on and around the slurry wall needs to be consistent with the specifications and requirements of the slurry wall. However, the slurry wall needs to be built to be able to withstand routine industrial activities, including railroad use, truck traffic and other activities that might generate significant vibrations or soil stress. If the wall is constructed in a manner that is consistent with these industrial activities, damage to the slurry wall caused by actions inconsistent with the wall's specifications or requirements, such as exceeding the load limits, would be the responsibility of the party who took that inconsistent action. However, if the wall fails to perform adequately because of design, construction, maintenance or other related activity, Honeywell will be liable for any consequences. Again one of the major tenants of the AOC is that the remediation will facilitate industrial redevelopment, therefore the slurry wall has to be able to tolerate normal industrial activity.
2. No further comment.
3. No further comment.
4. As a point of clarification the MDEQ does not consider the potential new seawall as part of the remedy proposed by Honeywell. Further the MDEQ will expect that the groundwater monitoring program will include chemical analysis.
5. Based upon the last technical meeting, it is the MDEQ's understanding that the seawall needs to be installed prior to the barrier wall, however, the exact sequence is still being discussed. The MDEQ expects that this sequence will be formally agreed upon shortly.

6. No further comment.
7. Honeywell should test the white lime-based material in order to determine if it is a hazardous substance. The DEQ recommends that this be completed during the wall alignment investigation.
8. Please supply the construction requirements and load limitations to the City/Developers as soon as possible.
9. The MDEQ recognizes that the design and development process must follow a defined sequence. It is our understanding after the last technical meeting, that you have all the information that you need from the developers. If this is not the case, please inform the MDEQ and the City of Detroit and we will try to expedite any information requirements.
10. No further comments.
11. No further comments.
12. No further comments.
13. No further comments.
14. No further comments.

If you have any questions regarding this matter, please contact Mr. Edward A. Novak of this office at (313) 392-6527.

Sincerely,

Edward A. Novak
Environmental Quality Analyst

cc: Mr. Oladipo Oyinsan, DEQ
Mr. Steve Hoin, DEQ
Mr. Andrew Hogarth, DEQ
Ms. Caroline Olmsted, DEQ
Mr. Pete Quackenbush, DEQ
Ms. Dana Rzeznik, USEPA
[redacted]
Mr. Alan Wasserman
Mr. Raymond Scott
Ms. Sharon Newlon

STATE OF MICHIGAN

JOHN ENGLER, Governor

DEPARTMENT OF ENVIRONMENTAL QUALITY

"Better Service for a Better Environment"

HOLLISTER BUILDING, PO BOX 30473, LANSING MI 48909-7973

INTERNET: www.deq.state.mi.us

RUSSELL J. HARDING, Director

REPLY TO:

DETROIT OFFICE
SUITE 3600
300 RIVER PLACE
DETROIT MI 48207

March 2, 2001

Mr. Timothy J. Metcalf
Honeywell, (AlliedSignal Inc.)
P.O. Box 1139
101 Columbia Road
Morristown, New Jersey 07962-1139

Dear Mr. Metcalf:

SUBJECT: Technical group meeting February 28, 2001

During the meeting of February 28, 2001, there were several questions regarding the slurry wall as it is currently proposed by Honeywell and its effect on sequencing the redevelopment. Please submit to the MDEQ and the DEGC, for distribution to the redevelopment group, the following requested information by March 19, 2001. The next Technical group meeting will be on Wednesday March 28, 2001 at the MDEQ Detroit office at 2:30 PM.

1. The estimated width and the depth below ground surface of the top of the wall.
2. Design information or specifications for the construction of rail lines or roads that cross the wall. Also please provide design information on potential wall cap designs that could facilitate normal road and rail construction.
3. Honeywell's understanding of anticipated restrictions to future construction and or industrial activities as a result of the wall.
4. Honeywell's understanding of the effect on the wall's integrity of normal industrial activities, including railroad use, truck traffic and other activities that might generate significant vibrations or soil stress. Is the current design optimal for industrial type activities or are other designs feasible?

If you have any questions regarding this matter, please contact Mr. Edward A. Novak of this office at (313) 392-6527.

Sincerely,

Edward A. Novak
Environmental Quality Analyst

cc: Mr. Andrew Hogarth, DEQ
Mr. Oladipo Oyinsan, DEQ
Mr. Steve Hoin, DEQ
Ms. Caroline Olmsted, DEQ
Mr. Pete Quackenbush, DEQ
Ms. Dana Rzeznik, USEPA
Mr. Gregory Rudloff, USEPA
Mr. Alan Wasserman
Mr. Raymond Scott
Ms. Sharon Newlon

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RUSSELL J. HARDING, Director

REPLY TO:

DETROIT OFFICE
SUITE 3600
300 RIVER PLACE
DETROIT MI 48207

December 21, 2000

Mr. Timothy J. Metcalf
Honeywell, (AlliedSignal Inc.)
P.O. Box 1139
101 Columbia Road
Morristown, New Jersey 07962-1139

Dear Mr. Metcalf:

SUBJECT: Barrier Design Recommendation Report Associated with the Interim Remedial Measures for the Former Detroit Coke Corporation Property, Detroit, Michigan

The MDEQ has reviewed the above mentioned document received by this office on October 20, 2000. The conceptual change to the Interim Response Plan (IRP) is approved with a contingency. That change involves moving the barrier wall closer to the Detroit River and eliminating the need for the pump and treat system outside the wall. The approval is contingent upon the expectation that the amended IRP will not adversely impact the proposed future redevelopment and therefore conforms to Section 2.0 of the approved Interim Response Plan (IRP). We have significant comments with regard to the design and implementation of the barrier wall. The following comments need to be addressed and/or implemented in order for the MDEQ to approve a final design plan. The following comments should not be considered comprehensive.

1. The various documents continue to imply that the overall design permeability of 1×10^{-6} cm/sec is the approved permeability and therefore base the performance standards upon this design factor. It should be made clear that the system must ultimately meet the applicable Part 201 criteria. The original permeability was part of an IRAP that included hydraulic control and an HDPE liner. Now that the remedy has changed, the original permeability of 1×10^{-6} cm/sec may not be adequate. Honeywell, will be obligated to address future releases through the wall. We strongly recommend that Honeywell decrease the wall design permeability.

2. The original design included assumed hydraulic control. It is not clear whether the present wall will include hydraulic control (i.e., maintenance of a negative relative groundwater head behind the wall). This will be a critical factor in the MDEQ's acceptance of the revised barrier design. The negative head would provide some assurance against the risk of breakthrough, since most breakthroughs could be controlled hydraulically. The MDEQ considers hydraulic control to be a necessary part of the final design plan.

3. The MRCE report suggests that sands detected beneath the facility are a "deep glacial lake sand". Glacial lake sands have been detected in SE Michigan, but these sands typically are the result of other depositional events. For example the beach related sands trending north-south through the western suburbs of Detroit. It is more likely that the deeper sands detected at the site are deltaic or fluvial in origin and do not extend for any significant distance under the site.

4. The proposal indicates that the barrier is to be moved "outboard" to encompass most of the area impacted by ammonia that was to be addressed via groundwater extraction. Although, this approach appears practical, the report goes on to indicate that this would preclude any monitoring of the containment system. Groundwater monitoring will be required and a groundwater-monitoring plan will be needed. That plan will require a formal review and at a minimum will be designed to demonstrate that the system is effective in preventing groundwater migration to the rivers.

5. The report indicates that the 60 foot barrier setback is the minimum required setback of the barrier wall from the seawall. It is critical that this minimal setback be maintained, if feasible because of the ammonia beyond the wall. Again, efforts should be made to clarify the seawall design, such that this minimal distance can be maintained. Note it is possibly that a limited amount of hazardous soils remain beyond the barrier wall, if this proves to be true then this material should be handled in a manner equivalent to that specified in Section 3.2.4 of the IRP.

6. The report suggests that a polywall is infeasible because of the new wall depth. It seems plausible to install a polywall in the shallow more severely impacted depths and a soil/bentonite wall at the deeper depths. Honeywell should consider this option.

7. The report indicates that the waste material should be excluded from the backfill for the wall. The design and specifications need to clearly address the placement and handling of the unused waste material. The report presents a proposal for handling waste spoils. Although the proposal appears to be feasible, the report does not address whether or not the waste handling will meet the appropriate regulatory requirements and redevelopment needs. This should be addressed prior to any waste handling design is completed. Furthermore it appears that the soft white high pH lime-based material may be hazardous, if this proves to be true, then this material should be handled in a manner equivalent to that specified in Section 3.2.4 of the IRP.

8. The report indicates that heavy traffic or loads should not be permitted over the wall cap. However, reinforced concrete pavement could be placed to span the barrier. This clearly impacts any future use and this information should be provided to future developers and their input should be solicited.

9. The report indicates that it should be feasible to incorporate existing utilities and construct new utility crossings in the barrier wall. The report then indicates that multiple crossing can be constructed into the wall at the time of barrier construction. Honeywell should solicit developer input on the location, number, and design elements of such crossings. We strongly recommend that at least one crossing be constructed to accommodate future unanticipated utility needs.

10. The design should specify the methods for confirming achievement of the required embedded depths. This applies to both the minimum embedded depths for adequate cutoff and the maximum embedded depths to maintain adequate factors of safety (a value of 4 feet is cited in MRCE's recommendations and was used in their stability analyses).

11. Instrumentation such as inclinometers at selected stationing along the alignment may be of value in confirming the stability and control of squeezing of the slurry trench excavation during construction.

12. The design specifications should require contractor submittal(s) of all soil and cement materials to be used, including samples, borrow sources, suppliers, stockpile locations, and laboratory test results for clay materials to complete the barrier and for backfill materials to be placed near and at the existing ground surface.

13. The detailed design drawings should delimit the approximate limits within which "slurry refreshment" and mechanical force are to be used to prevent slurry thickening and the approximate limits within which excavation of high pH materials and replacement with structural backfill are to be used. The specifications and drawings should address the requirements for confirming, during construction, the physical limits (especially the bottom depth) of the high pH materials along the alignment of the barrier and should show the delineation of the high pH material across the site to help facilitate redevelopment.

14. The MDEQ recommends that a notification process be established to notify all interested parties of planned site activities.

In order to foster better understanding and communication between Honeywell, MDEQ, the developers, EGC and the City of Detroit DEA, monthly meetings will be implemented to discuss technical issues. The City of Detroit Dept. of Environmental Affairs has agreed to sponsor these meetings starting in January. If you have any questions regarding this matter, please contact Mr. Edward A. Novak of this office at (313) 392-6527.

Sincerely,

Edward A. Novak

Edward A. Novak
Environmental Quality Analyst

cc: Mr. Oladipo Oyinsan, DEQ
Mr. Steve Hoin, DEQ
Mr. Andrew Hogarth, DEQ
Ms. Caroline Olmsted, DEQ
Mr. Pete Quackenbush, DEQ
Ms. Dana Rzeznik, USEPA
Mr. Gregory Rudloff, USEPA
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RUSSELL J. HARDING, Director

REPLY TO:

DETROIT OFFICE
SUITE 3600
300 RIVER PLACE
DETROIT MI 48207

April 11, 2000

Mr. Timothy J. Metcalf
Honeywell, (AlliedSignal Inc.)
P.O. Box 1139
101 Columbia Road
Morristown, New Jersey 07962-1139

Dear Mr. Metcalf:

SUBJECT: Technical Memoranda for Redevelopment
Former Detroit Coke Corporation Property, Detroit, Michigan

The MDEQ has reviewed the above document, received on February 25, 2000. The document will be included in the administrative record along with the comments presented below and the attached Memorandum from our contractor Malcolm-Pirnie.

Overall the Technical Memoranda addresses the items specified in the Interim Response Work Plan. We do however, have some concerns regarding the approaches taken in the work and as a result we request that these concerns be addressed in a contingency plan in the IRAP.

Following are our comments.

Containment Wall Geotechnical Testing

The MDEQ requests that Honeywell supply the MDEQ with any additional data and results obtained as a part of the geotechnical testing. The MDEQ has some concerns regarding the effectiveness of the bentonite in meeting the necessary swelling. The testing provided suggests that the swelling is dependent upon the source of the water used. In addition, several tests were eliminated from the proposed test in the IRAP without justification. As a result, the effectiveness of the bentonite has not been fully established. Therefore the MDEQ requests further demonstration or explanation of the effectiveness of the bentonite. This is crucial considering the importance of the bentonite in the long term integrity of the remedy.

Pump Test Summary

The MDEQ's and Malcolm-Pirnie's review of the pump test procedures and results suggests that the resulting aquifer transmissivity has been overestimated. The technical concerns are discussed in detail in Malcolm-Pirnie's attached document. As a result it is our opinion that the system capacity will be overestimated, but capture zones may be underestimated. It is the MDEQ's opinion that Honeywell should address these issues in any final design. For example, testing should be performed during initial operation to assess the effectiveness of groundwater capture and contingencies should be in place to address any potential inadequacies.

Groundwater Modeling

The MDEQ's and Malcolm-Pirnies's review of the modeling indicates that the models may not be accurately reflecting predicted site conditions. For example, the volume of water generated is based upon elevated transmissivities, which will result in overestimation of the volume of water extracted. This is supported by calculations based upon site recharge, which suggest much lower volumes than predicted. Other inaccuracies may have resulted from site calibration limitations. These potential inaccuracies could result in improper well placements (i.e., excessive well spacing) and other unforeseen design errors. The MDEQ suggest that either the model be adjusted to reflect the observed data and/or a larger range of potential site conditions, and that contingencies be prepared to address any potential inadequacies.

It appears that trenches are to be used to capture groundwater along the inside of the wall. These trenches do not appear to be continuos in the models. Please explain the rationale for the discontinuous trenching. .

Conceptual Treatment Design Evaluation

The MDEQ and MP's evaluation suggests that the proposed design may not accommodate the expected extraction volume. In an effort to overcome this problem, the design utilizes periodic groundwater extraction shutdown for the wells outside of the wall. Although the MDEQ, at this time, does not necessarily oppose this approach we do have several concerns.

First, it is unclear whether or not the periodic shutdowns will allow for contaminants to migrate into the river. Analyses should be provided to illustrate that this will not happen. In the event that additional contaminants (above GSI criteria) will migrate into the river above criteria, contingencies will need to be enacted. This could include temporary storage of water, or possibly re-injection in upgradient areas.

Secondly the MDEQ is concerned that the design is dependent upon the assumed discharge into the DWSD facility. Contingencies should be in place to allow for additional discharge in the event that it becomes necessary. This could include additional treatment capacity and discharge permits.

If you would like to meet to further discuss these issues please contact Mr. Edward A. Novak of this office at (313) 392-6527. For any specific technical questions please contact Mr. Steve Hoin of our Livonia office at 734-432-1296.

Sincerely,

Edward A. Novak

Edward A. Novak, Environmental Quality Analyst

Attachment

cc: Mr. Andew Hogarth, DEQ
Mr. Oladipo Oyinsan, DEQ
Mr. Jon Russell, DEQ
Mr. Steve Hoin, DEQ
Ms. Caroline Olmsted, DEQ
Mr. Pete Quackenbush, DEQ
Mr. Allen Melcer, USEPA
Mr. Alan Wasserman
Mr. Raymond Scott
Ms. Sharon Newlon

MALCOLM PIRNIE

MEMORANDUM

To: Edward Novak, MDEQ **Date:** 4/10/2000

Copy: Steve Hoin, MDEQ

From: Christopher Englert, Malcolm Pirnie CJE

Re: Comments Based on Review of ERM's October 27, 1999 Technical Memoranda for Redevelopment of the Former Detroit Coke Corporation Property Detroit, Michigan

The following summarizes Malcolm Pirnie's comments on the Technical Memoranda prepared by ERM on behalf of Honeywell, the former Allied Signal Corporation, for the former Detroit Coke Corporation property. Due to time constraints for review of the Technical Memoranda and receipt of pumping test data from ERM on March 21, 2000, only a preliminary review of the pump test data could be completed at this time. Review of the pump test data will continue and technical review comments from that review will be forwarded to the MDEQ as soon as possible.

The comments resulting from review of the Technical Memoranda are summarized in the following sections of this memorandum.

SPECIFIC COMMENTS

Containment Wall Geotechnical Testing

We have reviewed the geotechnical laboratory test results provided by ERM for design of the containment wall at the former Detroit Coke Corporation property. As of April 10, 2000, ERM has not posted the final geotechnical laboratory test results on the internet site. Thus, our review is limited to the information contained in the submittal. We provide the following comments pertaining to our review of the available geotechnical laboratory test results.

1) A total of six ground water samples were tested to evaluate their effect on hydration of bentonite. Three tests including Swell Index of Clay, Plate Water Absorption Test and Bentonite Fluid Loss test were proposed in the Interim Response Plan. However, only the Plate Water Absorption test was performed on the water samples and the other tests were cancelled. The document doesn't provide any scientific justification for cancellation of other tests. A justification should be provided or additional tests should be performed as proposed in the Interim Response Plan. The concern here is that one type of test may not be

sufficient to properly evaluate the impact of groundwater on hydration of bentonite.

2) The Marshall funnel test was performed on one sample of bentonite slurry and the results showed a viscosity of 41 sec with a filtrate loss <20 ml. As the acceptable viscosity for bentonite slurry is 40 sec, the tested slurry is marginally acceptable. Additional Marshall funnel tests should be performed to better characterize the proposed slurry mix.

3) It appears that ERM is modifying the laboratory-testing program proposed in the Interim Response Plan based on the recommendations of JLT. The laboratory test results provided by JLT should be reviewed by ERM and a scientific basis should be provided for any proposed changes in the Interim Response Plan.

Pump Test Summary

1. Each of the piezometer borings should have been logged not just one piezometer from each pumping test area. Further, detailed soil descriptions should not be "copied" from one soil-boring log to another. Based on soil borings drilled previously by Malcolm Pirnie, the sediments at the site appear to be highly heterogeneous making it unlikely that the "copied" soil boring logs present an accurate representation of subsurface soils. Accurate soil descriptions are a key component to understanding geological conditions necessary for pumping test data analysis.

2. The pumping test data should have been analyzed using Neuman's (1972) analytical method, which is appropriate for unconfined aquifers. Although the Theis and Cooper-Jacob (Jacob) methods can be used for unconfined aquifers, as long as drawdown is a small percentage of saturated aquifer thickness, these methods do not account for delayed yield.

3. Based on the data presented in Appendices B, F, and H, the Theis and Jacob analytical methods appear to have been misapplied in a number of cases, with the wrong portion of the well response curve being analyzed. In each of the three pumping tests there was inconsistency between which portion of the well response curve (i.e., early time, middle time or late time) was analyzed. In many cases, the delayed yield portion of the well response curve was inappropriately fitted with either the Theis type curve or the Jacob regression line. The end result of fitting the delayed yield portion of the well response curve is that transmissivity (T) and hydraulic conductivity (K) are over estimated.

4. For pumping tests no. 1 and no. 2 - It appears based on the shape of the well response curves that a constant pumping rate was not maintained during these

pumping tests. This may be because a bladder pump was used. In Malcolm Pirnie's experience, bladder pumps are not well suited for pumping tests because they typically have difficulty maintaining a constant flow rate. Further, the text documents that the pump had shut off a number of times during pumping test no. 1. The Theis and Jacob analytical methods both assume a constant flow rate is maintained through the duration of the test. Because the constant flow rate assumption was violated, use of the Theis and Jacob analytical methods is invalid.

5. Step tests should have been performed to determine appropriate flow rates at each pumping well prior to performing the pumping (drawdown) tests. In each pumping test (i.e., pumping tests 1 - 3), the pumping wells were pumped at insufficient flow rates to produce adequate drawdown in the aquifer. In many cases, less than 0.2 ft. of drawdown was measured in the observation wells.

6. The text indicates for pumping test no. 3 that "partial penetration was taken into account for during the data evaluation"; however, no mention is made to as how partial penetration was accounted for during the analysis. This partial penetration correction method should be described in the text.

7. For pumping test no. 3 (Appendix H) - most of the well response curves show poor fit using the Theis and Jacob methods. Some possible explanations for deflections off the standard Theis and Jacob curves may be due to fluctuations of a nearby recharge boundary (i.e., the Detroit River), fluctuating pumping rates, or fluctuations due to recharge from precipitation events.

8. The text indicates that a statistical screening method was used to evaluate outliers in the pumping test data set. Statistical outlier screening is not appropriate for analyzing pumping test data because aquifer heterogeneities can cause wide variation in aquifer parameters.

9. The text states that the hydraulic conductivity for pumping test no. 3 is 207 ft/day which corresponds to a gravel sediment type; however, the soil boring log for well PW-3 indicates that most of the aquifer material is a fine or fine silty sand. The hydraulic conductivity reported in the text appears anomalously high given the documented aquifer sediment type.

Ground Water Model Report

A poly wall, French drain, and purge well network is proposed as an Interim Response system for the Detroit Coke site, which is situated at the confluence of the Detroit and Rouge Rivers. The poly wall is designed to partially surround the site and block ground water flow from highly impacted areas to the rivers. A finite difference, numerical model was developed by ERM to assess the performance of the proposed Interim Response

system. For this task, ERM used MODFLOW, a ground water flow model, and Visual MODFLOW as the pre- and post processor. Malcolm Pirnie staff reviewed the model using the same software.

The ground water model used for this evaluation and presented in ERM's memorandum dated October 27, 1999 is seriously deficient and should not be used to predict the effects of remedial technologies at the Detroit Coke site. This deficiency is best exemplified by the hydraulic conductivity values used in the model, which are grossly over estimated. ERM used hydraulic conductivity values indicative of very coarse sand to gravel (64.8 ft/day) for the fill layer. This layer is documented to be sand. Hydraulic conductivity values indicative of coarse gravel and cobbles (164.5 ft/day) were used for the lower layer and close to the rivers where the confining unit is absent, again this area is documented to be silty sand. Intuitively, the use of these exaggerated values and a reluctance to validate the model through transient calibration shows an extreme flaw in the conceptual model used to develop the groundwater model. Any predictive scenario simulated with such a model can not be expected to reflect conditions at the site.

General Head

The rivers are modeled using the general head boundary (GHB) package of MODFLOW. ERM reports that they used a hydraulic conductivity of 1000 ft/day. Because this high hydraulic conductivity is much greater than the hydraulic conductivity used to simulate the layers the GHB has no effect and approximates constant heads. No mention of how deep the rivers are is made in the report and the general heads are applied uniformly.

The statement that a (undocumented) calculation was used to locate the upgradient boundary 1300 feet from anticipated pumping because 0.1 feet of drawdown would occur there if pumping of 1.5 gpm were simulated is curious. If this is true, then the model can only be used to simulate extraction of less than 1.5 gpm. The calculation used for this evaluation should be presented and the significance of creating 0.1 feet of drawdown along the upgradient constant head boundary when 1.5 gpm of pumping is simulated should be discussed (including detailed evaluation of the water budget). This begs the question of what occurs when greater (combined) pumping rates are simulated. These boundary conditions must be reconsidered and the argument behind the choice of boundary condition and associated parameter values (i.e. conductance and head) must be presented.

Recharge

ERM cites an un-referenced value of recharge of 8 inches per year. They attribute this value to the USGS. The USGS reference must be provided. Although 8 inches per year is referenced, a greater value is used (11 inches per year).

River Stage and Calibration Targets

ERM goes to great lengths to describe their choice of river stage, discussing in detail small discrepancies between measurements made at an offsite USGS staff gage and

measurements made on site. However, ERM fails to recognize that they are using a yearly average recharge value and are specifying a river stage in a tidal water body based on one month or even one day. This belies a deeper fallacy: ERM uses water levels from the Malcolm Pirnie investigation for calibration targets when more generalized data is necessary. Both of the Malcolm Pirnie water level measurement events occurred during March. As discussed in great detail by ERM, one of these events coincided with a water pipe leakage and should not be used as a calibration target. What is needed and appropriate for model calibration (especially if average recharge is being used) is average heads based on several water level measurement events and annual average river stage. It should be noted that Malcolm Pirnie's water level measurements were conducted as standard procedure during ground water sampling, not to support a modeling effort. ERM conducted three pumping tests at the site, which were presumably intended for transient calibration but were not used in the model. However, ERM did not collect any synoptic water level measurements (not even prior to the pumping tests).

Calibration

ERM conducted a steady state calibration and presented statistics showing head matching, however, they do not show the geographic distribution of error, which indicates a significant problem. The problem is that hydraulic conductivity is significantly overestimated. ERM also bemoans the difficulties of conducting a transient calibration, claiming that such an effort is "too complex" and that the data are not sufficient to conduct transient simulations. This can only be a reflection on the quality of the pumping tests. Perhaps the difficulties of transient calibration stem from the overestimation of hydraulic conductivity. Regardless of the difficulties ERM experiences during transient calibration, the intention of the model is to evaluate the ground water flow system under pumping conditions. Therefore it is paramount that the model is shown to accurately predict observed reactions to pumping. The traps and pitfalls of the non-uniqueness of steady state calibration are abundantly clear in the submitted modeling exercise.

Conceptual Treatment Design Evaluation

The conceptual pretreatment system described in the Technical Memoranda indicates that the treated ground water will be discharged to the Detroit Water and Sewerage Department (DWSD) sewer system under a Special Discharge Permit. The maximum daily discharge permissible under a Special Discharge Permit is limited to 100,000 gallons per day (gpd) or 70 gallons per minute (gpm). However, ground water modeling conducted by ERM using the calculated ground water flow rates from the extraction wells estimated an average design flow of 31 gpm from the extraction wells and drain located inside the poly wall and an estimated average design flow of 80 gpm from extraction wells located outside of the poly wall. Thus, the average total ground water flow rate was estimated by ERM to be 111 gpm (158,400 gpd).

ERM proposes that the average flow to be discharged to the DWSD of 70 gpm be achieved by limiting the flow from outside of the poly wall during certain periods and conversely increasing the flow rate for extraction wells located outside the wall and decreasing the flow from extraction wells located inside the wall during other periods. No details are provided as to the method used to vary this strategy and how site ground water monitoring will be used to demonstrate hydraulic control at all times.

ERM discussed in the Interim Response Work Plan that three options would be used and evaluated for the disposal of extracted ground water for the Interim Response Activity. Those options included:

1. Discharge treated ground water to the City of Detroit municipal sewer and treatment system;
2. Inject treated ground water into the two on-site deep wells; and
3. Discharge treated ground water to the Detroit River.

In the Technical Memoranda submittal the second and third alternatives were not discussed or formally eliminated and the ground water flow was arbitrarily limited to 100,000 gpd. Limiting the extraction and pretreatment of ground water from the site to 100,000 gpd may prevent Honeywell from complying with the performance objectives specified in the Administrative Order by Consent.

dc041000mem.doc

From: Steven Murawski on 10/25/99 09:47 AM

To: Gerald Phillips/R5/USEPA/US@EPA
cc:

Subject: Minergy Comfort Letter (Detroit Coke Site)

Gerald,

Attached is the final version of the Comfort Letter to Minergy. I just received a fax of the October 22, 1999 Minergy letter to Bob Springer, so Minergy's letter is on its way.

Thanks for your help on this.

EPA Comfort Letter 10-19-

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

NOV 17 1999

D-8J

Mr. Richard O'Conor
Minergy Detroit, LLC
N16 W23217 Stone Ridge Drive
Waukesha, WI 53188-1155

Re: Allied Signal Incorporated Site (formerly known as the Detroit Coke Site)
7819 West Jefferson, Detroit, Michigan

Dear Mr. O'Conor:

I am writing in response to your letter dated October 22, 1999 concerning the property referenced above. This response is based upon the facts presently known to the United States Environmental Protection Agency (EPA) and is provided solely for informational purposes. For the reasons stated below, EPA does not presently contemplate requiring additional Resource Conservation and Recovery Act (RCRA) corrective action (CA) requirements at this property under EPA's Underground Injection Control (UIC) permit Numbers MI-167-1W-004 and MI-167-1W-005.

The federal RCRA Subtitle C Program was established to, among other things, set standards for and regulate the generation, treatment, storage and disposal of hazardous wastes as well as provide for the cleanup of hazardous waste treatment, storage and disposal facilities. The EPA has authorized certain states, including the State of Michigan, to implement approved RCRA programs. Unless exempt by law, facilities that treat, store or dispose of hazardous wastes are subject to the requirements of RCRA. These requirements include applying for and obtaining operating permits, implementing closure and post-closure of regulated units, and performing corrective action to address releases of hazardous waste.

EPA supports State programs to address contaminated facilities, and supports the action which the Michigan Department of Environmental Quality (MDEQ) has taken to address environmental conditions at the AlliedSignal Incorporated Site. Based on the information in your letter, a site-specific Memorandum of Understanding between EPA and MDEQ dated April 29, 1999 (MOU), and site information currently in our possession, EPA neither plans nor anticipates pursuing any further RCRA CA requirements at this facility. In addition, EPA intends to rely on MDEQ to resolve any current or future environmental remediation issues related to the RCRA CA requirements at this facility. As set forth in Paragraph 19 of the MOU, from the effective date of the MOU, EPA will not enforce the RCRA CA requirements in the UIC permits provided that the MDEQ meets all of its obligations under the MOU. Additionally, as noted in Paragraph 21 of the MOU, EPA does not plan or anticipate taking any future Federal action related to the environmental remediation of the AlliedSignal Incorporated Site against future owners or

operators of the Site, provided that such owners or operators satisfy the conditions set forth in Paragraph 21 of the MOU. Please note, however, that this does not preclude EPA from undertaking any action at the facility at a later date if EPA obtains any information indicating that such action is necessary to protect human health and the environment.

If you have any questions, or if we can be of any further assistance, please do not hesitate to contact Mr. Gerald W. Phillips at (312) 886-0977.

Sincerely,

Robert Springer, Director
Waste, Pesticides and Toxics Division

cc: Mike Anastasio (C-14J)
Steven J. Murawski (C-14J)
Gerald Phillips (D-8J)
Greg Rudloff (DRP-8J)
Allen Melcer (WU-16J)
Robert P. Reichel, Assistant Attorney General, State of Michigan
Carrie Olmsted, Michigan Department of Environmental Quality
Alan D. Wasserman, Counsel for the City of Detroit

STATE OF MICHIGAN

JOHN ENGLER, Governor

DEPARTMENT OF ENVIRONMENTAL QUALITY

"Better Service for a Better Environment"

HOLLISTER BUILDING, PO BOX 30473, LANSING MI 48909-7973

INTERNET: www.deq.state.mi.us

RUSSELL J. HARDING, Director

REPLY TO:

ENVIRONMENTAL RESPONSE DIVISION
KNAPPS CENTRE
PO BOX 30426
LANSING MI 48909-7926

June 15, 1999

Mr. Timothy J. Metcalf
AlliedSignal, Inc.
P.O. Box 1139
101 Columbia Road
Morristown, New Jersey 07962-1139

Dear Mr. Metcalf:

SUBJECT: Interim Response Plan for the Redevelopment of the Former Detroit Coke Corporation Property, Detroit, Michigan, dated May 28, 1999

The Michigan Department of Environmental Quality (MDEQ) has reviewed the Interim Response Plan (IRP) dated May 28, 1999. This letter confirms our comments on the IRP provided during our June 8, 1999 teleconference. We are in agreement with the general approach, and feel that the IRP can be approved with the following modifications.

The IRP requires a schedule for each task in the IRP, however, many of the tasks can be grouped together. The proposed schedule faxed to us on June 7, 1999, is a good beginning. Submittal of the Quality Assurance Project Plan and the Health and Safety Plan for performance of the response activities may be included in the schedule, although it is also provided for in the draft Administrative Order by Consent for Response Activities (AOC) that AlliedSignal intends to enter with the state. The related actions column should be more specific, giving AlliedSignal a specified time period within which a task must commence (for example IRM 3.2.4 "will start within seven days of completion of IRM 3.2.3"). Interim Response (IR) measures 3.2.6-8 should allow time for final design review and approval by the MDEQ. Submittal of a final IRP report to the MDEQ and any other appropriate reports following a specific task should also be included in the schedule.

The IRP should acknowledge that the interim response will be consistent with the final remedy, which must meet applicable Part 201 criteria, including generic or mixing zone based GSI criteria for groundwater discharging into the surface water. In addition, since many components of the IRP will be provided at a later date, an overall performance standard for the interim response should be included in the IRP. The following performance standards should be achieved, following implementation of the interim response:

1. The poly wall contains the contaminated groundwater upgradient of the poly wall
2. The groundwater pumping system effectively captures and treats the groundwater within the containment area and the outside pumping location,
3. The direct contact and inhalation exposure hazards are effectively controlled.

Each individual task also requires a performance standard. Performance standards should be incorporated in the IRP for the tasks that will not require an additional design or plan approval. Performance standards may be provided in the subsequent work plan for tasks requiring additional

EQP 5100e
(Rev. 1-98)

design or plan approval.

Additionally, since the IRP becomes part of the AOC, you should clearly indicate the tasks AlliedSignal will perform. Some of the tasks listed in the draft IRP may be intended only to provide guidance to future operators on the Property.

Listed below are comments on specific sections of the draft IRP:

- Section 3.2.4:

  If other tar product areas are uncovered, they should also be removed in the same manner described in the IRP.

- Section 3.2.5:

  Any on-site materials that will be used for backfill should be tested and meet at least generic industrial criteria before use.

  Describe the decision making process for when a geotextile membrane will be used instead of gravel inside the containment area.

  Provide the design specifications for the geotextile membrane installation.

- Section 3.2.6:

  Provide the maximum acceptable permeability for the poly wall.

  Describe the method/protocol that will be used to determine if the existing fill is suitable for producing a "low permeability" slurry product.

  Provide a contingent method if the existing fill is not found suitable for the slurry, such as removal of the fill and the use of sand or other material to mix with the bentonite or cement for the slurry wall component.

  Indicate the performance standard measure for determining the integrity of the slurry wall will be provided in the final design plan.

- Section 3.2.7:

  Indicate the anticipated period of time the groundwater will be pumped and the poly wall will need to be maintained before the appropriate cleanup criteria are achieved.

  Provide a statement that contingency plans, will be provided in the final design plan.

- Section 3.2.8:

  Identify when a groundwater treatment alternative will be selected, and how that decision will be made.

  Provide a statement that contingency plans will be provided in the final design plan.

- Sections 3.2.12,13,14:

  These sections appear to deal with future development issues and it should be made clear whether or not Allied is performing these tasks as part of the IRP.

- Section 3.2.15:

  As discussed during the June 8th teleconference, the second bullet should be removed from this section.

A surveyed map specifying demarcation zones needs to be included with the restrictive covenant.

- Section 3.2.16:

  The Part 201 definition of "facility" must be used.

- Appendix B:

  It should be stated that the sediment-sampling plan will be a component of the Remedial Action Plan to be submitted at a later date.

- Appendix D:

  The 25-inch/year-precipitation rate is low. The actual precipitation rate is 32-34 inches/year.

We look forward to receiving your revised IRP on June 22, 1999. If you should have further questions or concerns, please contact Mr. Edward Novak, Environmental Response Division, Southeast Michigan District-Detroit Office, at 313-392-6527, or you may contact me.

Sincerely,

Andrew Hogarth, Assistant Chief
Environmental Response Division
517-373-9838

cc: Mr. Allen Melcer, U.S. Environmental Protection Agency
Ms. Sarah D. Lile, City of Detroit
Mr. Alan D. Wasserman, Fink Zausmer, PC
Ms. Karen O'Donahue, Detroit Economic Growth Corporation
Ms. Sharon Newlon, Dickinson-Wright PLLC
Mr. C. George Lynn, Environmental Resources Management
Mr. Chris Englert, Malcolm Pirnie
Mr. S. Peter Manning, DAG
Mr. Pete Quackenbush, MDEQ
Mr. Edward Novak, MDEQ
Mr. Steve Hoin, MDEQ
Ms. Carrie Olmsted, MDEQ
Ms. Lynn Buhl, MDEQ

Memorandum

ERM-North Central, Inc.

To: Tim Metcalf - AlliedSignal/973-455-3082
Andy Hogarth - MDEQ/517-373-9657
Allen Melcer – U.S. EPA/312-353-4788
Ed Novak – MDEQ/313-392-6488
Ray Scott – City of Detroit/313-224-1547
Karen O'Donoghue – DEGC/313-963-8839
Sharon Newlon – Dickinson Wright/313-223-3479

From: C. George Lynn

Date: June 7, 1999

Subject: Proposed Implementation Schedule
Interim Response Plan
Former Detroit Coke Corporation Property
Detroit, Michigan

In response to several requests, I have prepared a proposed schedule for implementation of the Interim Response Plan at the Former Detroit Coke Corporation Property. Included you will find a schedule in table form as well as a Gant chart. There are a number of variables that affect the schedule, consequently this should be considered "draft' at this stage.

The purpose of sending this by fax is to have copies in hand for discussion during our conference call tomorrow. I sent the schedule to as many people as I had fax numbers available, so please forward copies to those people that will be on the call but are not listed above. Thank you.

Post-it® Fax Note 7671	Date	# of pages ▶
To Greg Rudloff	From	
Co./Dept.	Co.	
Phone #	Phone #	
Fax # 312-353-4788	Fax #	

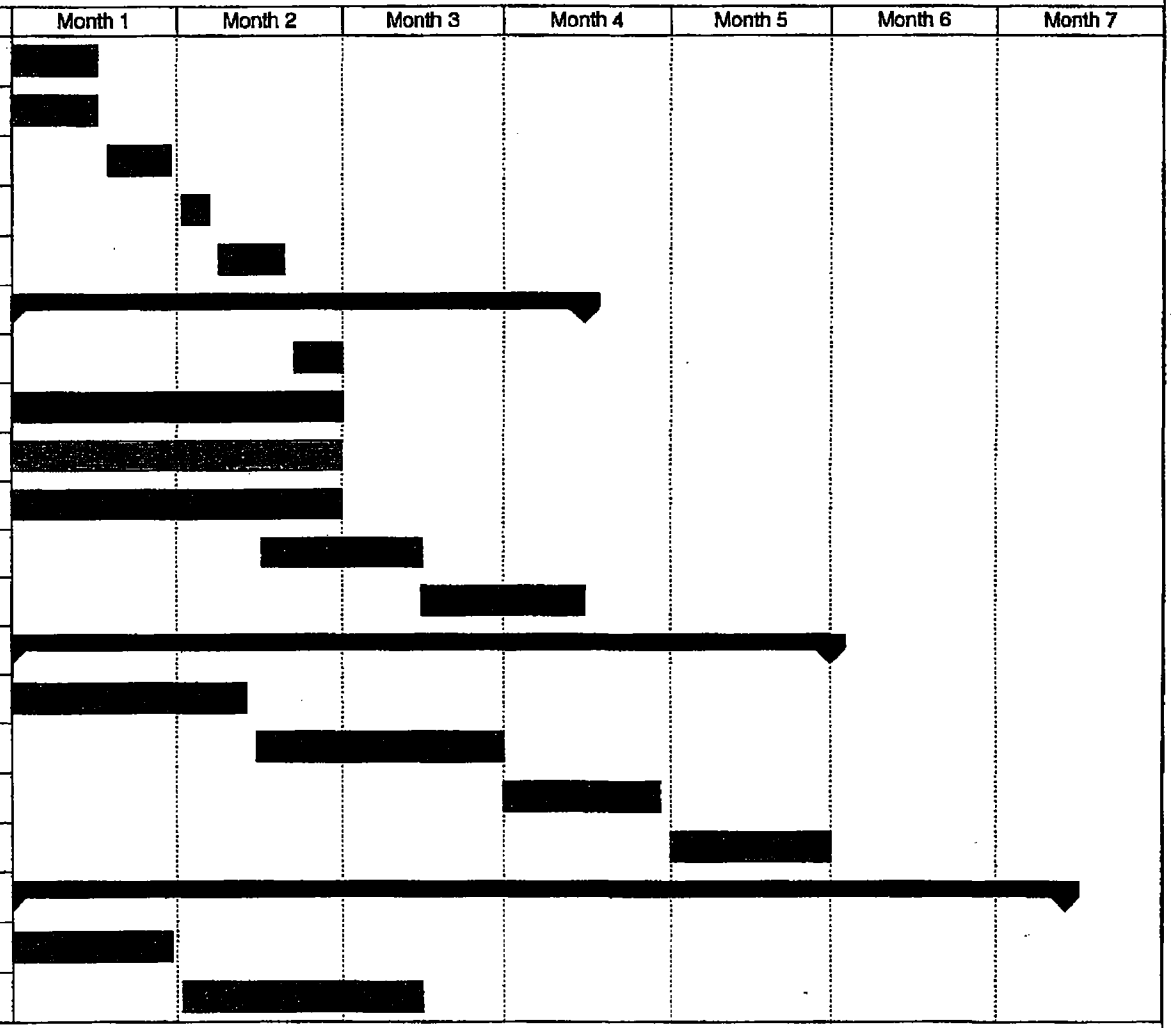
Proposed Implementation Schedule
Interim Response Plan
Former Detroit Coke Corporation Property
Detroit, Michigan

IR Measure	Description	Estimated Time To Complete	Related Actions
IRM 3.2.1	Tar Removal	2 Weeks	Initiates on site activities approx. two weeks to one month after AOC is signed. Dependent upon contractor selection and availability, and recycling/disposal options for tar.
IRM 3.2.2	Stockpiled Material Removal	2 Weeks	Can begin at same time as IRM 3.2.1 with similar assumptions. Also assumes leasees can remove their stockpiles within this time frame.
IRM 3.2.3	Coal Tar-Impacted Fill Removal From Tar Tank Area SWMUs	2 Weeks	Follows completion of IRM 3.2.1. Weather dependent.
IRM 3.2.4	Point Source Removal of Coal Tar-Impacted Fill	1 Week	Follows completion of IRM 3.2.3. Weather dependent.
IRM 3.2.5	Backfilling and Grading	2 Weeks	Follows completion of IRM 3.2.4. Weather dependent. Includes demarcation zone placement as described in IRM 3.2.11.
IRM 3.2.6	Containment Wall Installation		
	• Alignment Verification Drilling	1 Week	Can begin after IRM 3.2.2 but more likely after IRM 3.2.5. May require additional offset drilling depending on results obtained.
	• HDPE Laboratory Testing	1 - 3 Months	Can begin with IRM 3.2.1.
	• Bentonite Slurry Testing	2 - 3 Months	Can begin with IRM 3.2.1.
	• Final Design, Contractor Evaluation/Selection	1 Month	Can begin while IRMs 3.2.1 -3.2.5 are performed, but final selction may depend on HDPE/bentonite slurry testing.
	• Materials Acquisition/Delivery	1 Month	Can begin while IRMs 3.2.1 -3.2.5 are performed, but final selction will depend on HDPE/bentonite slurry testing.
	• Construction Mobilization, Wall Installation, Demobilization	1 Month	Assumes equipment and materials are available within this time frame, and minimal delays due to adverse weather and subsurface obstructions/penetrations.
IRM 3.2.7	Ground Water and Product Recovery		
	• Final Design and Specifications	1.5 Months	Can begin with IRM 3.2.1.
	• Equipment Delivery and Installation	1.5 Months	Follows completion of final design and specifications.
	• System Startup and Performance Testing	1 Month	Follows completion of equipment delivery and startup.
	• Operation and Maintenance Plan	1 Month	Follows completion of system startup and performance testing.

IRM 3.2.16	Remedial Action Plan		
	• IR Plan	Upon approval by MDEQ/U.S. EPA.	Once the IR Plan and AOC are approved, implementation of the IR Measures can begin.
	• Final IR Design Plans	As specified in IRM 3.2.6, 3.2.7, and 3.2.8.	Final plans will be submitted to MDEQ/U.S. EPA as they are completed.
	• Property H&S Plan	1 Month	Can begin with IRM 3.2.1, but won't be finalized until IRM's 3.2.6 - 3.2.11 are installed to ensure completeness.
	• IR Measures Operation and Maintenance Plan	1 Month	Following installation and startup of IR Measures.
	• IR Measures Contingency Plan	1 Month	Commensurate with O & M plans.
	• Construction Analysis Plan	Independent of IR Measures	Future owners are responsible for CA plans.
	• Construction QA/QC Plan	Independent of IR Measures	Future owners are responsible for QA/QC plans.

PROPOSED IMPLEMENTATION SCHEDULE
INTERIM RESPONSE PLAN
FORMER DETROIT COKE CORPORATION PROPERTY
DETROIT, MICHIGAN

ID	IR Measure	Task Name
1	**IRM 3.2.1**	**Tar Removal**
2	**IRM 3.2.2**	**Stockpiled Material Removal**
3	**IRM 3.2.3**	**Tar Tank Area Tar Removal**
4	**IRM 3.2.4**	**Point Source Tar Removal**
5	**IRM 3.2.5**	**Backfilling and Grading**
6	**IRM 3.2.6**	**Containment Wall Installation**
7		Alignment Verification Drilling
8		HDPE Laboratory Testing
9		Bentonite Slurry Testing
10		Final Design, Contractor Eval/Select
11		Materials Acquisition/Delivery
12		Mob, Installation, Demob
13	**IRM 3.2.7**	**Ground Water/Product Recovery**
14		Final Design and Specifications
15		Equipment Delivery/ Installation
16		System Startup/Performance Testing
17		Operation and Maintenance Plan
18	**IRM 3.2.8**	**Ground Water/Product Treatment**
19		Treatability Testing
20		Final Design and Specifications

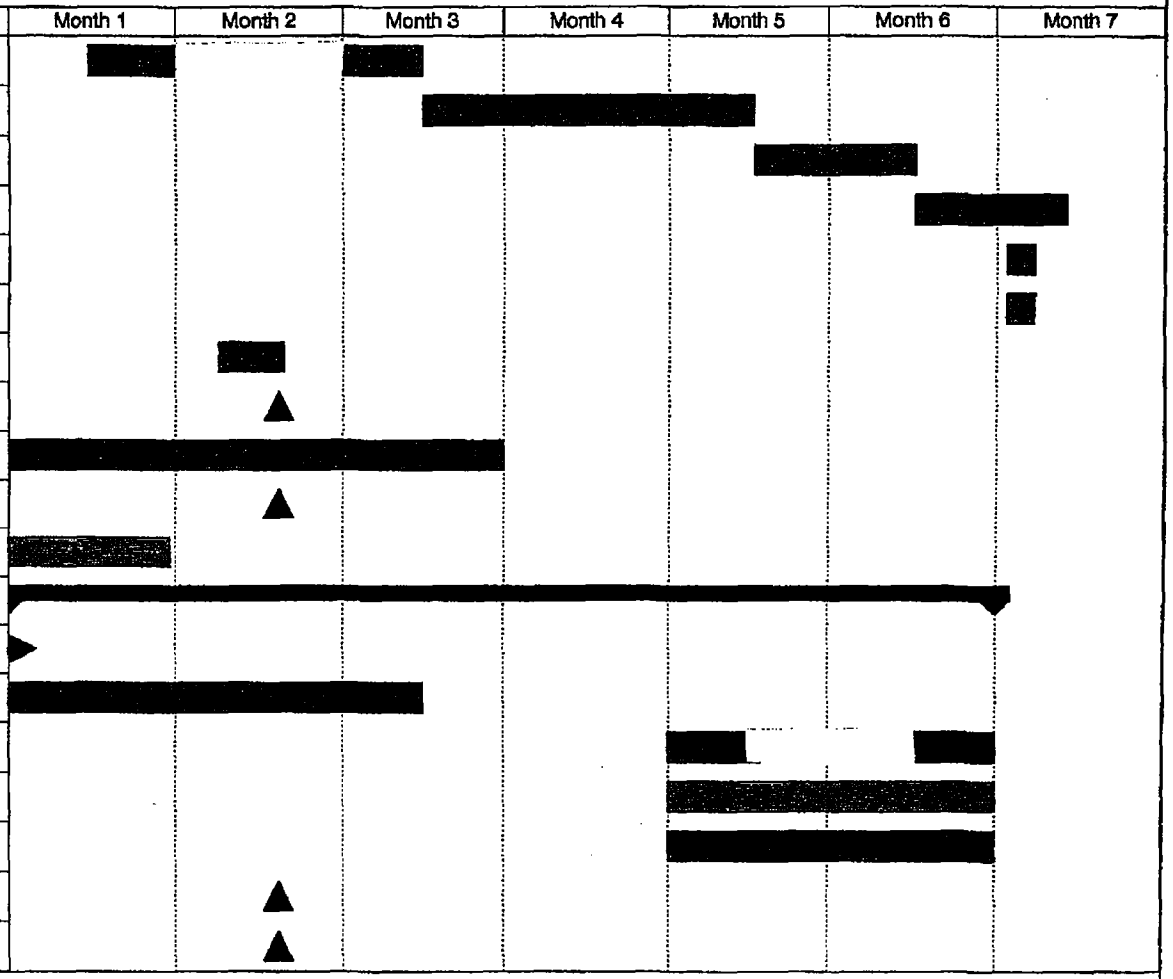


Project: 99147Schedule1
Date: Mon 6/7/99

Task
Summary
Milestone
Redevelopment

PROPOSED IMPLEMENTATION SCHEDULE
INTERIM RESPONSE PLAN
FORMER DETROIT COKE CORPORATION PROPERTY
DETROIT, MICHIGAN

ID	IR Measure	Task Name
21		Construction/Discharge Permit
22		Equipment Fabrication/Installation
23		System Startup/Performance Testing
24		Operation and Maintenance Plan
25	IRM 3.2.9	**Ground Water Monitoring**
26	IRM 3.2.10	**Injection Well Maintenance**
27	IRM 3.2.11	**Capping/Infiltration Barriers**
28	IRM 3.2.12	**Venting Systems/Vapor Barriers**
29	IRM 3.2.13	**Storm Water Control**
30	IRM 3.2.14	**Building Foundations**
31	IRM 3.2.15	**Institutional Controls**
32	IRM 3.2.16	**Remedial Action Plan**
33		Interim Measures Plan
34		Final IR Design Plans
35		Property H&S Plan
36		IRM Operation & Maintenance Plans
37		IRM Contingency Plans
38		Construction Analysis Plan
39		Construction QA/QC Plan



Project: 99147Schedule1
Date: Mon 6/7/99

Task
Summary
Milestone
Redevelopment

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

MAY 04 1999

REPLY TO THE ATTENTION OF:
WU-16J

VIA ELECTRONIC MAIL

April 16, 1999

Mr. Timothy J. Metcalf
AlliedSignal Inc.
P.O. Box 1139
101 Columbia Road
Morristown, New Jersey 07962-1139

Re: Redevelopment Plan for the Former Detroit Coke Corporation Facility

Dear Mr. Metcalf:

Enclosed with this letter are the United States Environmental Protection Agency's (EPA) comments and questions regarding AlliedSignal's April 12, 1999, redevelopment plan for the former Detroit Coke facility. In general, the proposed brownfield redevelopment model appears to provide a framework that can be developed into an acceptable Remedial Action Plan (RAP) for the site. The basic concepts of source removal, and groundwater containment are an acceptable approach to the remediation of the site. In addition, the selection of a HDPE "polywall" appears to be superior to a soil/bentonite slurry wall given the contaminants present (especially high pH).

EPA agrees with the concept put forward to initially proceed with remediation activities as interim measures in order to address discharge of contaminated ground water to the rivers as well as environmental concerns directly linked to redevelopment. This will allow the redevelopment to occur concurrent with the remediation activities at the facility. EPA does expect that Allied will develop an approvable RAP that addresses all environmental concerns at the site on a timetable consistent with any applicable State order.

As can be seen from our comments, most of our concerns arise from the need for more information on the specifics of your plan. We anticipate that the attached comments will assist you in responding to our concerns.

We are also enclosing a copy of the Rouge River sediment analysis to assist you in responding to our comment regarding the need to address contaminated sediments in the rivers. If you have any questions regarding the Rouge River sediment survey, please contact Art Ostaszewski, Michigan Department of Environmental Quality, Surface Water Quality Division, (517) 335-4491.

Please contact me at (312) 886-1498 or Melcer.allen@epa.gov or Greg Rudloff at (312) 886-0455 or Rudloff.gregory@epa.gov if you have any questions.

Sincerely yours,

Tinka G. Hyde,
Acting Director, Water Division

Enclosures

cc: Gregory Rudloff, Waste, Pesticides and Toxics Division
Steve Murawski, Office of Regional Counsel
Ken Westlake, Office of the Regional Administrator
Art Ostaszewski, Surface Water Quality Division, MDEQ
Andrew Hogarth, Environmental Response Division, MDEQ
Steve Buda, Waste Management Division, MDEQ

explain how the chosen locations will intercept all of the free product and contaminated ground water on site.

9. Page 4 - The first bullet on this page indicates that Allied views the purpose of the extraction wells as primarily to capture and remove LNAPLs and DNAPLs. However, sampling data indicates that the ground water is severely impacted from past activities on the site. The ground water interception and remediation program should be geared toward remediating contaminated ground water as well as removing LNAPLs and DNAPLs.

10. Page 4 - It is appropriate to anchor the ground water barrier into the clay, thus limiting the location where the barrier may be emplaced. However, sampling data indicates that groundwater downgradient of the barrier is contaminated to a level greater than the groundwater-surface water interface criteria. Please provide a ground water remediation plan involving interception and/or removal for the contaminated groundwater that is located outside of the polywall.

11. Page 4 - The emplacement of the ground water barrier, either as a semi-circle or as a full enclosure, will change the ground water flow patterns on site. Contaminated ground water located upgradient of the site may flow along the outside of the barrier to the Detroit and Rouge Rivers, or contaminated ground water flow paths may be diverted to the rivers due to mounding of ground water within the barrier. Please provide more details on how Allied plans to detect and remediate, if necessary, contaminated ground water moving outside of the proposed flow barrier.

12. Page 4 - In the third bullet Allied indicates their intent to dispose of contaminated ground water into the two deep injection wells located on site. Please be aware that if the ground water is characterized as hazardous waste per the regulations at 40 C.F.R. Part 261, then the owner or operator of the wells must receive an exemption to the land disposal ban prior to injection. If an exemption is not granted, then the ground water must be treated to below the universal treatment standards, found at 40 C.F.R. 268.40, before it can be injected into the wells.

13. Page 4 - The storage and treatment/disposal system that will be used for recovered product and groundwater should be described.

14. Investigations on the nature and extent of contaminated sediments in the Rouge River adjacent to the property indicates that fine grained sediments are contaminated with PAHs. Please provide a plan for addressing contaminated sediments at the site.

15. Page 6 - The third bullet under project deliverables states that EPA will issue a letter to the City of Detroit and the developers confirming that it will look only to AlliedSignal to address any potential liabilities or responsibilities at the site relating to its regulation under this Federal RCRA program. EPA will investigate whether it will be able to issue comfort letters such as this to the City and future owners of the property. If EPA determines that it is able to issue such a letter, that letter would need approval from both the Federal RCRA and Office of Regional Council programs.

16. Page 6 - The fifth bullet of the project deliverables section states that MDEQ agrees to apply reasonable and appropriate clean-up criteria for soil and ground water at the site, in light of the redevelopment model and surrounding conditions. As proposed in the second bullet of this section, MDEQ will use the Part 201 clean-up standards for this site. How does Allied view "reasonable and appropriate clean-up criteria" as differing from the Part 201 standards that Allied requests be used in the second bullet above?

Environmental Resources Management

1630 Heritage Landing Drive
Suite 100
St. Charles, MO 63303
(314) 928-0300
(314) 928-2050 (fax)

April 26, 1999

Mr. Andrew W. Hogarth
Assistant Chief, ERD
Michigan Department of Environmental Quality
Knapps Centre
P.O. Box 30426
Lansing, MI 48909

ERM®

Ms. Tinka G. Hyde
Acting Director, Water Division
U.S. EPA, Region 5
77 West Jackson Boulevard
Chicago, IL 60604-3590

RE: Former Detroit Coke Corporation Redevelopment Plan
Response to MDEQ and U.S. EPA Comments
ERM Project No. 97444GL

Dear Mr. Hogarth and Ms. Hyde:

On behalf of AlliedSignal, Inc. (AlliedSignal), Environmental Resources Management (ERM) has received and reviewed the comments from the Michigan Department of Environmental Quality (MDEQ) and the U.S. EPA (EPA) concerning the April 12, 1999 Redevelopment Plan for the Former Detroit Coke Corporation Property (the Property). Because many of the comments from the MDEQ and the EPA are similar, we are responding to all of the comments in a single document. Some of the responses are included to help clarify the order of activities and the anticipated deliverables. MDEQ/EPA will be cited collectively assuming that a Memorandum of Understanding will be negotiated between both parties indicating their agreement with the actions proposed.

GENERAL

1. We understand that MDEQ/EPA will approve a modified Redevelopment Plan (the Plan) for the Property that contains the interim response elements of source control, land use or resource use

restrictions, and financial assurance to expedite redevelopment of the property. Modification of the April 12, 1999 Redevelopment Plan to address comments and incorporate elements identified by MDEQ/EPA will be the submittal made to MDEQ/EPA for review and approval.

2. AlliedSignal will enter into a legally enforceable agreement with the State based on approval of the modified Plan that contains the interim response measures, with the understanding that a Remedial Action Plan (RAP) for the entire facility will be prepared.

3. The RAP will consist of the Plan (interim response measures) and those additional elements required by Part 201, Environmental Remediation, the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA). Submittal of the RAP for MDEQ/EPA approval will be made on a timely basis, but will occur subsequent to approval of the modified Plan and potentially during redevelopment of the Property. This timeline is anticipated based on the extent of work required to adequately address the facility, and to take advantage of information obtained through implementation of the interim response measures.

SPECIFIC COMMENTS – MDEQ

SOURCE CONTROL

1A) Free Phase Liquids

The adequacy of seven wells to capture DNAPLS and LNAPLs will be assessed through hydrological testing at the site that has not yet been performed. The modified Plan will identify the tests to be conducted, which may include pump testing, permeability/porosity measurements, flow modeling, and DNAPL/LNAPL recovery rates. An assessment will

be made to determine if the existing wells can be used to perform this work, or if other wells are needed.

With regard to the integrity of the containment wall, HDPE is the industry's most widely used material for containment because of its proven chemical resistance and impermeability. The modified Plan will contain specifications and any laboratory testing of the proposed HDPE for approval by MDEQ/EPA.

1B) Source Control, Other

The objective of source removal as described in the Plan is consistent with Part 201, Appendix A, Source Control Obligations for Part 201 Facilities. The proposed source control measures are considered technically practical, cost-effective, and of environmental benefit as referenced in Appendix A, while any attempt to remove (excavate) tar from below the water table is not consistent with these objectives. Tar remaining below the water table will be addressed by the free phase recovery system. We believe that sufficient investigations have been performed on the Property to characterize the extent of tar in the subsurface.

It is important to note that only one aboveground tank remains in the Tar Tank Area rather than the three tanks referenced in the original Redevelopment Plan. The other two tanks have already been removed from the Property.

RISKS DUE TO GROUNDWATER CONTAMINATION

2) Drinking Water Usage

The Plan will be modified to indicate groundwater will be a resource restricted for use as drinking water.

3) Dermal Exposures

We consider it presumptive to assume Naphthalene is or will be present at the site above 31,000 ppb, especially in light of the proposed source removal activities and capping related to new construction on the Property. However, we will consider the use of restrictions in the area behind the containment wall and make appropriate recommendations in the modified Plan. These restrictions are anticipated to be localized exposure barriers to address specific areas and contaminants of limited extent rather than a property-wide restriction or barrier.

4) Indoor Air

Vapor barrier and control will be incorporated in the modified Plan as an institutional control for exposure to indoor air.

5) Hazards to Surface Water

The containment wall will be keyed into the uppermost confining clay as close as possible to the River Rouge and Detroit River without compromising the integrity of the confinement zone. Existing stratigraphic information will be evaluated to properly align the wall, and any revisions to the proposed alignment will be made in the modified Plan. As indicated previously in Response 1A, The Plan will also contain specifications concerning compatibility of the containment wall with site materials and high pH groundwater.

Design plans and a construction quality assurance plan will be provided to MDEQ/EPA. These documents will be submitted separately for review and approval by MDEQ/EPA. Also submitted separately and subsequent to completion of interim response measures will be Operation & Maintenance (O&M) and Health & Safety (H&S) plans. The O&M plan will apply to the implemented interim response measures, and the H&S plan will be used to protect future construction workers at the Property.

The location of the containment wall will be surveyed and clearly mapped so that future construction activity will not breach the integrity of the wall. Methods for sealing penetrations for new and existing utilities will be provided in the design plans, and detailed in the as-built drawings.

As proposed in the Redevelopment Plan, we will use a combination of containment and liquid coal tar recovery to control the lateral migration of chemical constituents in ground water. A certain amount of ground water recovery will be performed to 1) support/enhance liquid coal tar recovery, 2) mitigate any dissolved compounds in ground water above applicable action levels, and 3) maintain hydraulic equilibrium across the containment wall. A more detailed description of the methods used to meet these objectives will be provided in the modified Plan, and included on design specifications. However, the definitive ground water recovery methods have not yet been determined. Hydrological testing discussed in Response 1A will be utilized to develop the most effective ground water control measures for the Property.

Infiltration to ground water is considered an element of control for the lateral migration of chemical constituents. New construction capping, which includes concrete foundations, asphalt roadways and parking lots, and aggregate cover, together with storm water management are considered effective infiltration controls at the Property. Considering future use of the Property for industrial purposes, an infiltration barrier may be placed in one or more specific areas, but it would not be practical to install an infiltration barrier across the entire site and expect to maintain integrity in the presence of foundation footings and piers, buried utility lines and other subsurface structures. Infiltration limitations will be discussed in conjunction with the containment and recovery systems in the modified Plan. Additionally, a more detailed footprint of proposed construction on the Property will be included in the modified Plan if available at the time of submittal.

Ground water recovery outside of the containment wall will be addressed through an evaluation of the investigative information obtained by MDEQ. Recommended action items for dealing with impacted ground

water outside of the containment wall will be made in the modified Plan. This may include verification sampling and testing, hydrological testing, pump tests, degradation studies, mass loading calculations, an assessment of regional ground water flow patterns, and FOIA requests for information on adjoining properties. Cleanup levels and response actions can then be established with MDEQ for compliance with Part 201 criteria.

MDEQ has indicated that GSI clean up levels will apply where surface water has the potential to reach ground water, which is adjacent to the Detroit River and River Rouge, and that other standards will apply away from these areas. It is expected that a limited industrial closure can be received for the Property, and that the appropriate Part 201 standards can be applied. Consideration may also be given for partial closure by media, chemical compound, or area on the Property.

RISKS DUE TO SOIL CONTAMINATION

6) Land use and resource use restrictions applicable to site conditions will be presented in the modified Plan. Cover related to new construction is discussed in Response 5) above.

7, 8) As indicated in Response 4), vapor barrier and control will be incorporated in the modified Plan as an institutional control for exposure to indoor air.

9, 10, 11) The impracticality of installing an infiltration barrier across the entire Property is discussed in Response 5). The infiltration barrier is addressed through new construction, and the proximity of ground water to the source is addressed through source removal.

12) Sediment data pertaining to the Detroit River and River Rouge will be reviewed before any response actions will be proposed. Storm water

management, as discussed in Response 5), is an integral part of infiltration control and is linked to redevelopment of the Property. It is anticipated that storm water control measures will be provided with new construction plans to meet discharge regulations.

GROUND WATER MONITORING

More detailed ground water monitoring will be presented in the modified Plan. However, the adequacy of existing wells and related site information at the Property must first be evaluated. Any additional wells may be installed on a progressive basis to support implementation of the interim response measures, and to take advantage of using the wells for multiple purposes. Consequently, it may not be possible to identify all monitoring well locations in the modified Plan that could ultimately be installed at the site. The intent will be to indicate which aspects of the project will require monitoring, such as the site perimeter, recovery operations, and the containment system to ensure that wells are placed in appropriate locations. The length of time for monitoring the well network on the Property will be extended to a time and frequency acceptable to MDEQ/EPA. As with other interim response measures, O&M plans will be prepared for the monitoring well network at the Property.

CONTINGENCY PLAN

Reference to contingency planning will be incorporated into the modified Plan. The actual contingency plans are expected to be part of the design and construction plans for the proposed interim measures that will be submitted to MDEQ/EPA for review and approval.

SPECIFIC COMMENTS – U.S. EPA

Page 1 - As discussed in Response 5) above, MDEQ has indicated that Part 201 clean up levels, besides GSI values applied along the River Rouge and Detroit River, can be used for the Property. Consequently,

separate risk-based criteria are not considered necessary. However, there may be a need in the future to evaluate a specific contaminant from a risk standpoint, in which case a limited risk assessment may be performed.

Page 3 – Site investigation information will be reviewed to determine if contaminants other than liquid coal tar need to be removed or otherwise mitigated at the Property. This review will include a comparison of the data to new construction diagrams in the event cap and closure are considered a viable solution.

Page 3 – Existing information from test pits, soil borings, and monitoring wells will be used to determine if additional point source removal is necessary and feasible.

Page 3 – We consider consolidation and capping of impacted soil a potential interim response measure. For example, this alternative may be used to remove the exposure route for soil impacted by contaminants other than coal tar that can effectively be consolidated and capped. In short, the specific application of consolidation has not yet been defined, but it should be considered as a potential interim response alternative. A review of the existing information will be used to support any recommendation for consolidation in the modified Plan.

On a related topic, MDEQ/EPA has indicated that soil excavated for interim response or future construction can be reinterned in a manner similar to test pit activities conducted during previous investigations at the Property. Land disposal restrictions will be evaluated when either consolidation or reinternment are considered for implementation.

Page 3 – The vapor barrier system will be described in the modified Plan, as will the application of a vapor barrier under any other occupied buildings on the Property.

Page 3 – See MDEQ Responses 1A) and 5).

Page 3 – See MDEQ Responses 1a) and 5), and Ground Water Monitoring.

Page 4 – See MDEQ Responses 5) and Ground Water Monitoring.

Page 4 – See MDEQ Response 5).

Page 4 – The containment wall will be constructed in a manner to minimize the potential for movement of contaminated ground water around or outside of the barrier. As mentioned in earlier responses, hydrological information will be collected to determine the most effective design of the containment wall. It is anticipated that the monitoring well network will be sufficiently distributed across the Property to detect mounding or diversion trends that may appear after installation of the wall. Also see MDEQ Response 5).

Page 4 – AlliedSignal may elect to apply for an exemption to the land disposal ban to dispose of contaminated ground water at the site that is characterized as hazardous waste. This depends on several factors, including the volume of contaminated ground water, the types and levels of contamination, and the cost and effectiveness of treatment alternatives. The decision to apply for an exemption will be made as part of the design process for the recovery and containment system. Contaminated ground water will not be disposed in the injection wells if determined to be hazardous without the appropriate permit.

Any storage and treatment/disposal systems used for recovered products and ground water will be described in the modified Plan and detailed in design specifications. A discussion will be included that addresses the use of the storage and treatment/disposal system in the event the deep injection wells cannot handle the volume of ground water or are unavailable for use due to approval delays.

Page 4 - Information provided by EPA will be reviewed concerning the nature and extent of contaminated sediments in River Rouge adjacent to the Property. Information about other activities along the river may also be reviewed, such as the Rouge River Remedial Action Plan, before a response action to this issue is incorporated in the facility RAP.

Page 6 – Please advise us of your determination concerning EPA's ability to issue the letter in question.

Page 6 – See U.S. EPA Response to Page 1 and MDEQ Response 5).

Please review these responses to comments at your earliest convenience. Based on our conference call on April 22, 1999, all parties are in general agreement with the original Redevelopment Plan, the proposed modifications in reply to MDEQ/EPA comments, and the above responses. A letter indicating MDEQ/EPA agreement is requested so the redevelopment plan modifications can proceed without delay. The estimated date for submittal of the modified Plan is May 28, 1999. If you have questions or need further clarification, please call me at 314/928-0300.

Sincerely,

C. George Lynn
Senior Project Manager

/CGL

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

MEMORANDUM

DATE: April 13, 1999

SUBJECT: Technical Review of the Redevelopment Plan for the Former Detroit Coke Corporation Facility

FROM: Greg Rudloff, Geologist, WPTD

TO: Allen Melcer, Geologist, WD

Attached are my comments from the technical review of the Redevelopment Plan for the Former Detroit Coke Corporation Facility dated April 12, 1999. If you have any questions, feel free to contact me at 6-0455.

COMMENTS

REDEVELOPMENT PLAN

FOR THE FORMER DETROIT COKE CORPORATION FACILITY

DETROIT, MICHIGAN

APRIL 12, 1999

GENERAL

1. In general, the proposed brownfield redevelopment model appears to provide a framework that can be developed into an acceptable Remedial Action Plan (RAP) for the site. The basic concepts of source removal, and groundwater containment are an acceptable approach to the remediation of the site. In addition, the selection of a HDPE "polywall" appears to be superior to a soil/bentonite slurry wall given the contaminants present (especially high pH).

Brownfield Development Model

2. The criteria that will be used to determine the need for point source removal outside the Tar Tank Area SWMUs need to be described.

3. Source removal of contaminants other than liquid coal tar may be needed. This may especially be true of contaminated areas that will remain outside the slurry wall.

4. The statement that "some soils may be consolidated on-site" needs additional explanation. Does this statement mean that some impacted soils may be consolidated on-site and capped for final disposal?

5. The vapor barrier system that will be installed beneath occupied buildings at the cogeneration plant needs to be described. In addition, will any of the occupied buildings from other development at the site require a vapor barrier system?

6. The HDPE "polywall" needs to be described in more detail including:
   - Construction details and specifications;
   - Compatibility of the materials with exposure to contaminants (especially high pH);
   - Location of the slurry wall and the criteria used to determine the location;
   - Compatibility with future development at the site; and
   - Monitoring system to assess hydraulic containment.

7. Additional investigation is needed to determine the location and number of product recovery wells to insure hydraulic containment of the site. In addition, a system of monitoring wells should be developed to monitor the effectiveness of the "polywall" groundwater collection system.

8. The storage and treatment/disposal system that will be used for recovered product and groundwater should be described.

9. Additional remedial measures such as source removal or hydraulic containment may be required to address contamination outside the "polywall", and contaminated sediments within the Detroit and Rouge Rivers.

10.

REDEVELOPMENT PLAN FOR THE FORMER DETROIT COKE CORPORATION FACILITY DETROIT, MICHIGAN APRIL 12, 1999

INTRODUCTION

The former Detroit Coke Corporation (DCC) site represents a premier opportunity for the City of Detroit to make a significant impact on sustainable development in the metropolitan area. This 80-acre property, located at the confluence of the Detroit River and River Rouge, less than four miles southwest of downtown Detroit, has been selected for construction of a new cogeneration and glass aggregate plant and the location of three cement companies. The cement plants currently occupy land on the Detroit River northeast of the city center that is needed for other redevelopment projects.

Successful redevelopment of the former DCC facility provides key benefits to the City of Detroit, and positively impacts a number of stakeholders. The city benefits through additional investment, jobs and tax revenue. The companies involved in the project - Wisvest, Minergy, LaFarge, Southdown, Holnam, and AlliedSignal - all have a vested interest in the success of business in Detroit. Redevelopment of the site will re-utilize a Brownfield site in lieu of Greenfield property, protect human health and the environment, and increase environmental quality in the City and State.

The purpose of this Redevelopment Plan is to:

1. Describe the project and its importance to achieving sustainable development in Detroit;

2. Present the economic and environmental benefits associated with a construction project of this magnitude; and

3. Provide a logical risk-based approach to redevelopment of this former industrial site.

The City of Detroit's goal is to provide the Michigan Department of Environmental Quality (MDEQ) and the United States Environmental Protection Agency (U.S. EPA) with a clear understanding of the project so we can work in partnership to achieve redevelopment of the site in an efficient and environmentally safe manner.

REDEVELOPMENT OF THE SITE

Like many former industrial sites, multiple parties must cooperate to facilitate successful redevelopment. This project brings together the current site owner, the City of Detroit, a current non-industrial tenant on part of the site, and five operations that can be developed simultaneously. The U.S. EPA and state regulatory agencies have taken leadership roles in encouraging redevelopment of Brownfield properties to preserve and rebuild industrial centers. The objectives of this plan are to promote redevelopment and manage site impacts in a manner that is protective of human health and the environment. This can be accomplished efficiently and cost effectively by creating a redevelopment model that addresses the real risks posed by environmental concerns through a combination of interim remedial measures, new construction capping, and institutional controls.

The MDEQ has supported Brownfield redevelopment in Michigan through the enactment of Part 201 of the State's Environmental Code. Under Part 201, prospective purchasers of the Brownfield property are protected, and innovative clean-up strategies can be employed to facilitate redevelopment. This site is ideally suited for redevelopment following Part 201 procedures. The site is located in an industrialized area of southwest Detroit on the Detroit River and the River Rouge, with access to multiple transportation routes. The property is large, approximately 80 acres in size, and most of the structures have been removed. Investigation of soil and ground water has been performed, and a perimeter ground water monitoring network is in place.

Key to the site redevelopment model is the conceptual layout of five new industries at the site (Figure 1). The construction of a cogeneration and glass aggregate plant and three cement handling facilities provides protective cover across the site through the use of buildings, concrete roadways, asphalt parking lots, and aggregate storage areas. Protection of groundwater is also addressed through new construction, along with the proposed barrier and recovery system, perimeter monitoring, and institutional controls. Other remedial measures, described in the following sections, complete the model for site redevelopment.

BROWNFIELD DEVELOPMENT MODEL

The redevelopment model created by Environmental Resources Management (ERM) for the site incorporates proven and accepted technologies. A brief

summary of the steps included in the model are provided below. The location of specific remedial measures are shown on Figures 2 and 3.

- Remove tar from the three existing aboveground tanks at the site (Tar Tank Area SWMUs). The tar will be transported off site for recycling or disposal at an approved facility. The tanks and any remaining rail lines will be removed and scrapped for steel recycling.

- Remove stockpiled coke and steel recycling materials from the site. Demolish any remaining buildings and dispose of trash and construction debris off site at an approved landfill.

- Excavate and remove liquid coal tar in the Tar Tank Area SWMUs for recycling. Liquid coal tar will be removed from the Tar Tank Area (SWMU 11), the Trench Area (SWMU 12) and the Tar Pump House (SWMU 13) until the underlying fill material is encountered, or the water table is reached. Excavation will not proceed below the water table; any impacts in the saturated zone will be managed as part of the ground water program.

- Conduct point source removal, if necessary, of liquid coal tar in soils in areas outside the Tar Tank Area SWMUs. The need for point source removal will be based on historical data, investigative information, and the distribution of cap material planned during new construction. Some soils may be consolidated on-site, depending on chemical concentrations, cap materials, and clean-up objectives. The only area where liquid coal tar in soils is currently expected to be removed outside of the Tar Tank Area SWMUs is in the vicinity of Test Pit 1. Removal of liquid products in the saturated zone will be assessed as part of the ground water program.

- Backfill the Tar Tank Area SWMUs and grade the entire property using stockpiled fill materials on site and additional off-site clean fill as needed to promote storm water drainage and deter infiltration. A geotextile membrane or coarse gravel will be emplaced before any clean fill to provide a demarcation zone between the clean fill and underlying soil for future workers at the site. In addition, a vapor barrier system will be installed beneath occupied buildings at the cogeneration plant to control indoor air quality.

- Install a continuous HDPE "polywall" slurry wall system over an estimated 3,500-foot length of the property downgradient of the Tar Tank Area SWMUs and the By-Products Containment Area SWMUs. The wall will consist of a HDPE sheet surrounded on both sides by slurried bentonite and soil fill. The

base of the polywall will be keyed into the first confining clay layer at an approximate depth of 15 feet. The purpose of the wall will be to control lateral migration of impacted ground water. A similar polywall may be installed along 2,000 feet of the northwest property line to restrict ground water flow onto the site from upgradient sources. The decision to add a polywall along the northwest property line will be based on hydraulic conditions and potential ground water recovery operations at the site.

- Install seven liquid product recovery wells downgradient of the Tar Tank Area SWMUs and the By-Products Recovery Area SWMUs. These wells will be installed to an estimated depth of 15 feet (top of the first confining clay layer) and be screened to intercept DNAPL and LNAPL. The wells will be manifolded to a common piping system for delivery of recovered liquid products to the on site deep wells for underground injection. The number and location of wells will be based on hydraulic conditions at the site and potential recovery rates of DNAPL and LNAPL.

considered a horiz. well.

- Evaluate existing monitoring wells for use as a perimeter monitoring network. These wells will be selected based on their proximity to the borders of the property and screened intervals. Monitoring will be performed on a quarterly basis for a three-year period, after which time the frequency and location of monitoring will be re-evaluated.

  Ground water monitoring will be conducted to assess the composition and distribution of constituents in the subsurface, the potential for dissolved or dispersed compounds to migrate beyond the margins of the property, and the rate of movement or degradation of compounds of concern. Based on the results of monitoring, the need for and types of other remedial measures necessary to mitigate ground water contamination will be determined.

- Maintain the two deep injection wells in compliance with their RCRA permits only for potential use in ground water remediation or for disposal of storm water runoff from the site. In the event the wells are not used for these purposes, they will be plugged and abandoned in accordance with permit requirements. The injection wells will not be used for any other purposes.

- Utilize concrete, asphalt, gravel, graded fill, and landscaping associated with construction as capping materials for the site. Placement of these materials will serve as barriers to infiltration and will eliminate the direct exposure risk to impacted soils that remain in place.

- Install a city ring road around the property with curbs, gutters, and storm water drains. The drains will be connected to the city BSI interceptor located on Jefferson Avenue which discharges to the City's WWTP. Storm water runoff will not be allowed to discharge to the Detroit River or River Rouge. If required, a retention basin will be constructed to restrict the rate of flow of storm water to the WWTP.

- Drive steel foundation piles to bedrock and hard clay at an estimated depth of 90 to 100 feet for the foundation of the cogeneration plan. The clay layer will provide a barrier against any potential vertical migration of the site impacts.

- Develop institutional controls and deed restrictions that apply to future use of the property. These include elements such as fencing, controlled access gates, building restrictions for impacted areas, restrictive covenants, and health & safety plans for construction employees that may work at the site.

ENVIRONMENTAL BENEFITS OF REDEVELOPMENT

The action items listed above are aimed at addressing site conditions in a manner that is protective of human health and the environment. The benefits from these actions have a direct impact on the soil, waste materials, and ground water.

Removal of stored tar wastes and residual tar in soils eliminates potential source material from the site, and the use of capping through redevelopment reduces the potential for exposure and ground water impact. These activities specifically address on-site risks from direct contact and limit the potential for transfer of potential risks from impacted materials to an off-site location. An additional benefit is minimizing the disturbance of other on-site materials that are old and degraded, which also reduces potential adverse affects to workers on the property and neighboring businesses.

Ground water management is a key to any successful Brownfield redevelopment program. At the former DCC facility, ground water is as shallow as two feet below surface, and slopes in an easterly direction towards the Detroit River and River Rouge. Fill material at the site extends to an average depth of ten feet below surface, which is in turn underlain across a large part of the site by a layer of natural clay. Use of the shallow ground water is restricted by local regulations, therefore, little (if any) risk exists from future exposure to ground water. Based on these facts, ground water at the site is best managed using the proposed barrier and recovery system and perimeter monitoring in conjunction with institutional controls restricting ground water usage.

PROJECT DELIVERABLES

Completion of the redevelopment project requires acceptance and assurance from regulatory agencies for the work performed. The following agreements need to be in place before the project can move forward.

- U.S. EPA agrees that MDEQ's Environmental Response Division will have jurisdiction over site clean-up and that Part 201 standards can be applied as necessary.

- MDEQ, in turn, agrees that Part 201 standards apply, and that the site will be regulated under the Michigan Part 201 program.

- U.S. EPA and MDEQ agree that the deep injection wells will continue to be addressed by AlliedSignal through the Federal RCRA program. U.S. EPA agrees to issue to the City of Detroit (and the developers) a letter confirming that it will look only to AlliedSignal, and not to the developers, to address any potential liabilities or responsibilities at the site relating to its regulation under this Federal RCRA program.

- MDEQ needs to demonstrate their acceptance of the proposed redevelopment plan in principle, with the goal of approving a more detailed redevelopment plan as soon as the final round of investigative information can be incorporated into the existing database.

- MDEQ agrees to apply reasonable and appropriate clean-up criteria for soil and ground water at the site, in light of the redevelopment model and surrounding conditions.

- MDEQ and the State of Michigan agree to enter into a covenant not to sue the City of Detroit and the developers for existing environmental conditions at the site in recognition of redevelopment of the property, so long as they comply with any applicable engineering and institutional controls.

ENVIRONMENTAL BENEFITS

Based on the proposed redevelopment activities in this plan, the following economic and environmental benefits will be achieved.

- Redevelopment of the former DCC site is a WIN-WIN-WIN situation - a former industrial property is re-utilized, Greenfield property is preserved, and human health and the environment are protected.

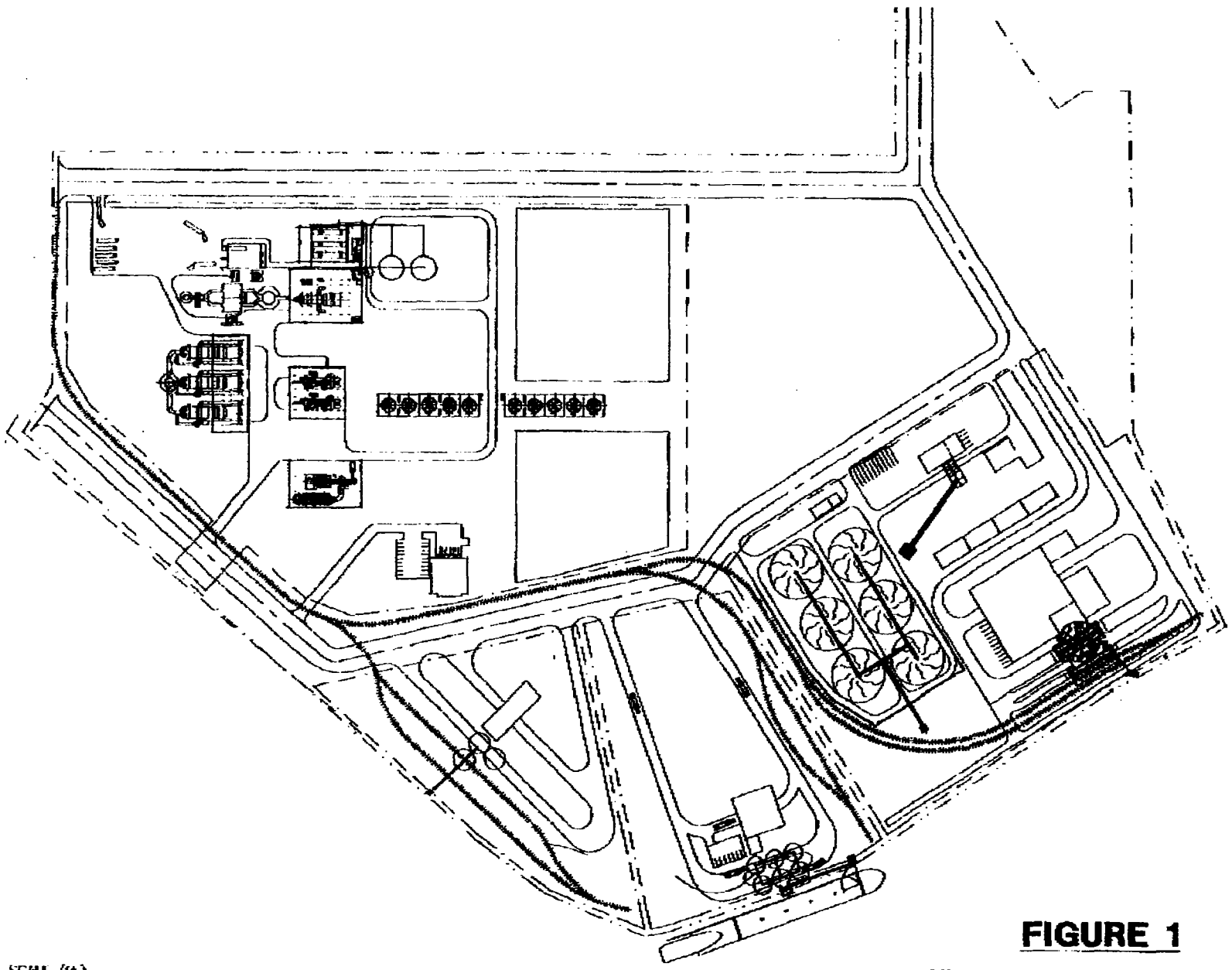
- Risk-based clean-up objectives are tied directly to new construction, which helps to minimize the amount of subsurface materials disturbed and expedites project completion.

- Environmental compliance is achieved efficiently and effectively, compared to a more protracted investigation/evaluation/negotiation process to reach compliance without a planned future use scenario in hand.

- Ground water is addressed concurrently with redevelopment through installation of the barrier and recovery system, perimeter monitoring, degradation/migration tracking, and institutional controls.

- Impacts from past practices are primarily addressed on site rather than transferring the potential risks associated with impacted material to off site locations.

- Future workers at the site are protected through the use of institutional controls, protective barriers, and site health & safety plans.



APPROX. SCALE (ft.)

0 350

FIGURE 1

NEW CONSTRUCTION PLAN
FORMER DETROIT COKE CORP. SITE

ERM

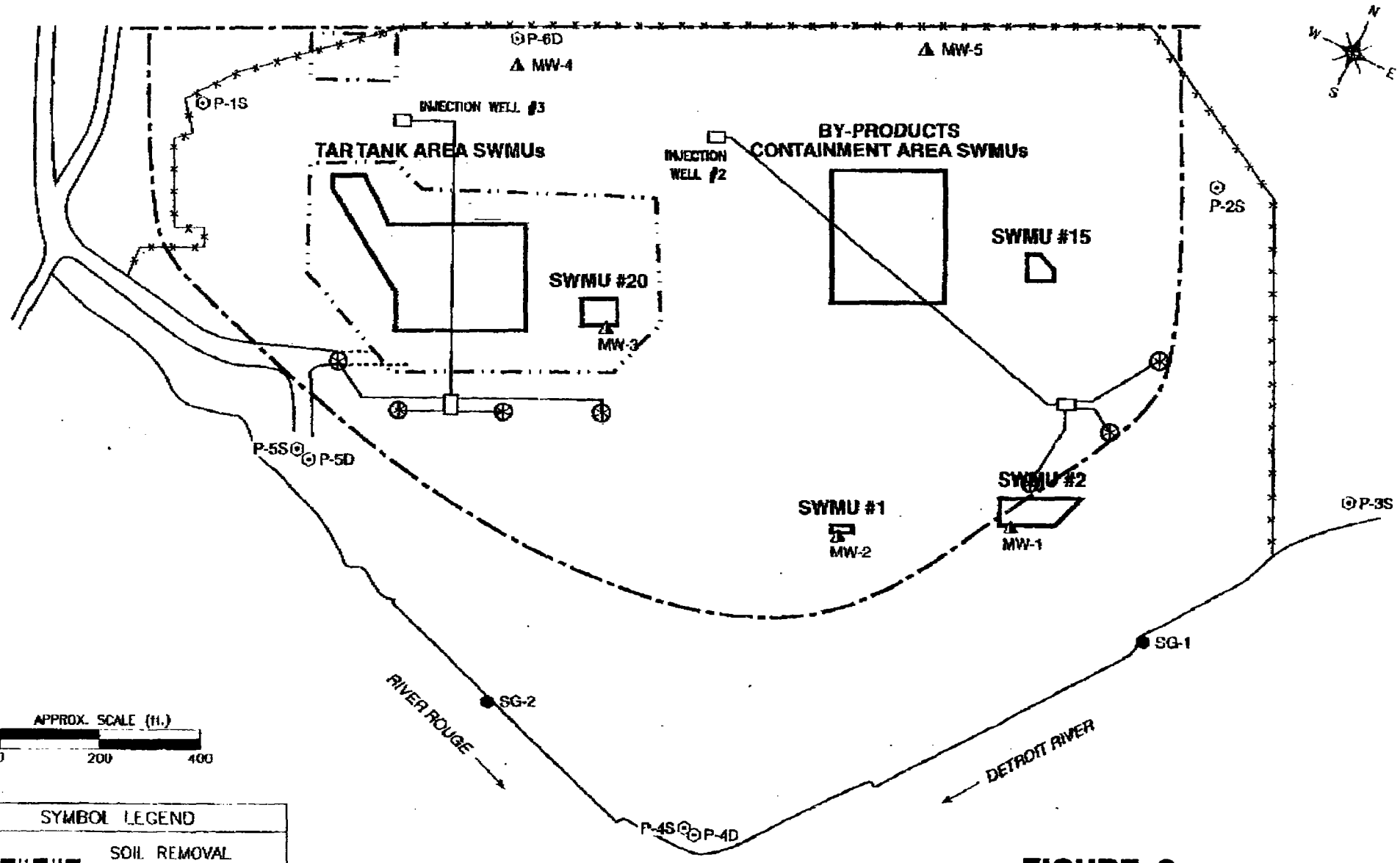


FIGURE 2

BROWNFIELD REDEVELOPMENT PLAN
FORMER DETROIT COKE CORP. SITE

ERM

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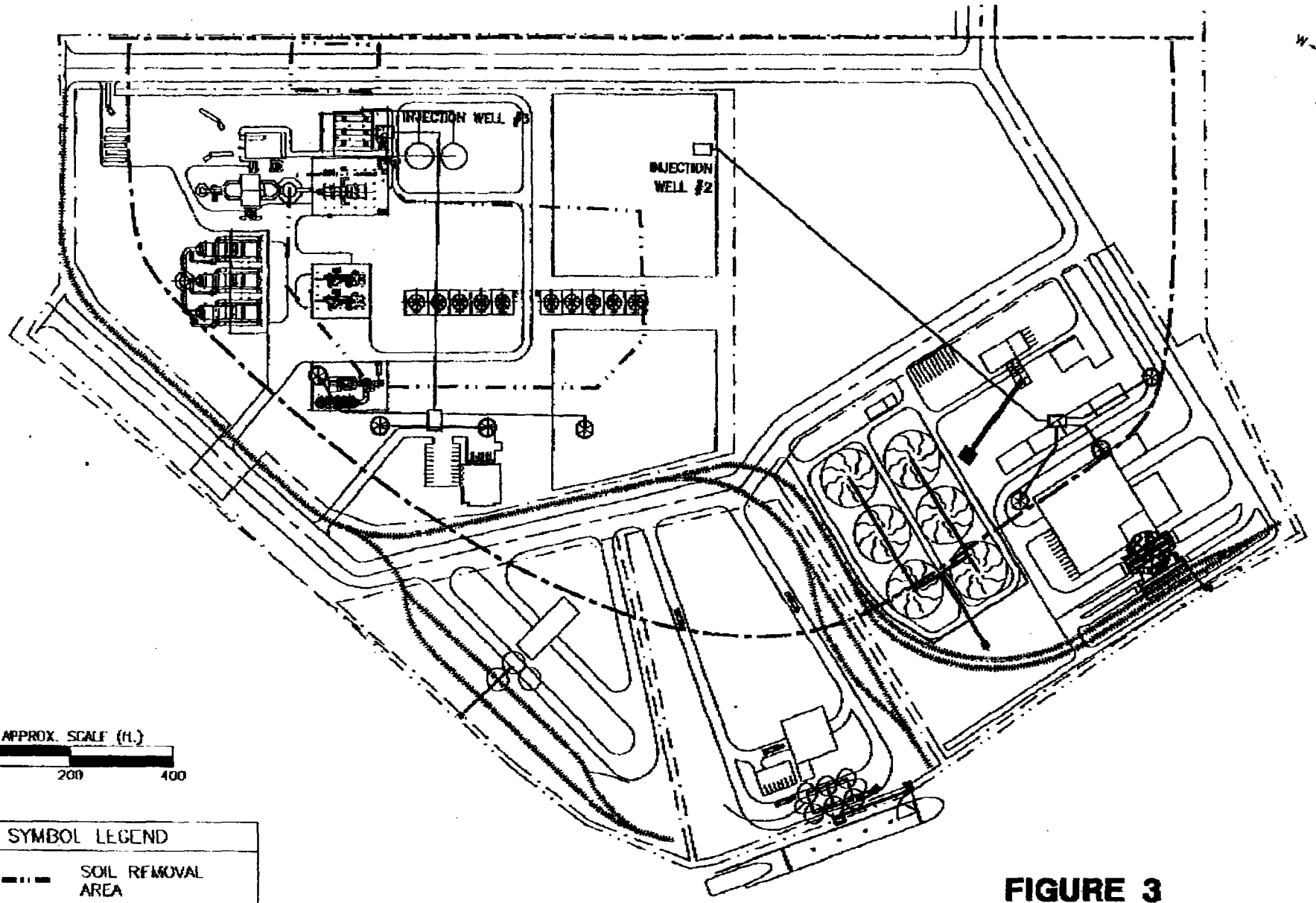

FIGURE 3

BROWNFIELD REDEVELOPMENT AND NEW CONSTRUCTION PLAN FORMER DETROIT COKE CORP. SITE

ERM

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August 6, 1998

Via Federal Express
Mr. Andy Hogarth
State of Michigan
Department of Environmental Quality
Environmental Response Division
300 S. Washington Avenue
Lansing, Michigan 48933

Re: Waterfront Reclamation and Casino Project
Cost Estimates and Analysis - Former Detroit Coke Site

Dear Mr. Hogarth:

I have enclosed a copy of draft letter report and supplemental draft report prepared by Roy F. Weston regarding the above-captioned matter. If you have any questions, please call me.

Very truly yours,

FINK ZAUSMER, P.C.

Alan D. Wasserman

Alan D. Wasserman

rs
Enclosures
cc: Sarah D. Lile, Esq.
Avery K. Williams, Esq.

28 July 1998

Mr. Ramesh Patel
City of Detroit
Planning and Development Department
65 Cadillac Square, Suite 1602
Detroit, Michigan 48226

DRAFT

Re: Waterfront Reclamation and Casino Project — Work Order No.: 02257-300-004
WESTON Contract No.: 78482
Cost Estimates and Analysis – Former Detroit Coke Site

Dear Mr. Patel:

Roy F. Weston, Inc. (WESTON®) has prepared this letter report describing our analysis and cost estimate for the remediation and potential redevelopment of the former Detroit Coke site. This work was completed for the City of Detroit (City) Planning and Development Department (PDD) in accordance with our proposal dated 10 July 1998 and pursuant to Section 3.02 of the above-referenced contract. WESTON has prepared this letter report based on the specific request that the feasibility and cost to obtain an unrestricted site closure for both the Northern and Southern Portions of the site be evaluated. As described herein, it is apparent that the attainment of an unrestricted site closure at the Northern Portion of the site may not be a realistic objective due to the magnitude and extent of site contaminants. This letter report describes the required remedial actions that would be necessary for the unrestricted site closure; however, it is likely that a restricted or limited closure would be more readily obtained for the Northern Portion of the site.

This letter report is organized into four main sections:

- The technical approach used to conduct the cost estimating and analysis tasks.
- A description of WESTON's analysis of the site and a presentation of the candidate remedial strategy, including the anticipated project schedule.
- A cost estimate to implement the remedial strategy.
- A description of WESTON's analysis of a Comprehensive Response Compensation and Liability Act (CERCLA) closure.

TECHNICAL APPROACH

WESTON conducted the following activities during the project:

- WESTON obtained from the City a copy of all available reports for the site.
- WESTON conducted a detailed review of all available reports pertaining to the environmental condition of the property.

- Based upon the reports review and City requests, WESTON determined the most feasible, expeditious, and cost-effective remedial strategy to achieve a Michigan Department of Environmental Quality (MDEQ)-approved Generic Industrial Closure (unrestricted) under Part 201 with respect to (a) the Northern Portion of the site and (b) the Southern Portion of the site in a manner which would permit construction of one or more industrial structures.

- WESTON identified the site preparation, characterization, and remedial activities required to implement the proposed remedial action.

- WESTON developed a conceptual remedial action/site closure schedule.

- WESTON developed the engineer's estimates (with detailed breakdown of costs and all assumptions) to achieve a site closure. These estimates include all costs, fees, and expenses of whatever kind necessary to achieve a closure, and are accurate to within +\- 10%. The estimates also include separate costs for closing the two deep injection wells.

- WESTON evaluated the applicability and administration of potential CERCLA and Resource Conservation and Recovery Act (RCRA) closure scenarios.

ANALYSIS AND REMEDIAL STRATEGY

Generic Industrial Closure Requirements

To obtain a MDEQ-Generic Industrial Closure the following criteria must be achieved:

- Meet Industrial Direct Contact Criteria (IDCC) for soil and groundwater.

- Meet Industrial Indoor Inhalation Criteria (IIIC) for soil and groundwater.

- Meet Industrial Groundwater-Surface Water Interface Criteria (IGSIC) for groundwater near the rivers. IGSIC for soils are not applicable at the site because in-situ groundwater data is available.

- Remediate free product areas.

Key File Review Findings

During the file review WESTON identified several key findings regarding soil and groundwater conditions at the site. In summary, site soils are impacted with metals that exceed IDCC, polynuclear aromatic hydrocarbons (PAHs) that exceed IDCC, and benzene that exceeds the IIIC. In addition, free product was observed in soils at numerous sampling

locations. Site groundwater contains volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and metals that exceed IGSIC. SVOCs also exceed IDCC for groundwater. In addition, free product was observed in six of the on-site monitoring wells. Also of note, two underground storage tanks (USTs) reportedly remain beneath the Northern Portion of the site, consisting of one 1,000-gallon gasoline UST and one 12,000-gallon diesel fuel UST.

In accordance with a City request, a boundary between the Northern and Southern Portions of the site was determined in part based on an interpretation of the aerial extent of significant soil and groundwater contaminants (Figure 1). WESTON evaluated existing soil and groundwater data and delineated a Southern Portion that could most easily be granted a MDEQ-Generic Industrial Closure (unrestricted). The resulting Northern Portion of the site therefore is comprised of the most environmentally impaired areas. The uppermost soil beneath Northern Portion of the site (consisting entirely of granular fill averaging 11 feet thick) contains material with nearly ubiquitous MDEQ health-based cleanup criteria exceedances and widespread petroleum-saturated conditions.

Following a review of the available information for the site, WESTON developed the following strategy for use in obtaining MDEQ-Generic Industrial Closures (unrestricted) for the Northern and Southern Portions of the former Detroit Coke site.

Northern Portion

Site Preparation and Characterization

To best facilitate the management of site remediation activities, the initial project activity on the Northern Portion of the site should be to restrict access to all non-approved personnel and to initiate the removal of all commercial commodities (i.e., salt piles, gravel piles, slag piles, etc) from the site. WESTON also recommends that a meeting be held between the City and the MDEQ to discuss the proposed Remedial Strategy and to obtain their concurrence on the Strategy.

MDEQ and private parties have completed an extensive characterization of the surface and subsurface soil and ground water at the Northern Portion of the site. Therefore, WESTON recommends only the limited site characterization activities described below.

A comprehensive inventory of all potential waste material present on the Northern Portion of the property should be compiled (waste material in two 1,000,000 gallon aboveground storage tanks [ASTs], waste tar observed on the surface, water and oil observed in diked areas and vaults, etc). Sampling and characterization of the identified material should also be conducted. Following completion of the waste material characterization activities, WESTON recommends that the

material be removed and disposed of. This activity includes the preparation of biddable specifications for material removal, the solicitation of bids from removal contractors, and the performance of management and oversight tasks during all removal activities.

The two USTs that have been tentatively identified at the Northern Portion of the site should be emptied and removed in accordance with MDEQ-Storage Tank Division (STD) guidelines. WESTON understands that Due Care Obligations of the current landowner (Allied Chemical) may be impetus for the private party to properly address the USTs.

Following the completion of these activities, a Remedial Action Plan (RAP) for the site should be prepared and submitted to the MDEQ for approval. The RAP should include a summary of all investigative and characterization activities completed to date and should present a focused feasibility study (FFS) for the impacted soil and groundwater.

Site Remediation

Following approval of the RAP by the MDEQ, it is anticipated that the following remediation activities would be required:

Due to the nearly ubiquitous presence of fill material exhibiting MDEQ-Generic Industrial Criteria exceedances across the Northern Portion of the site, the attainment of an expeditious unrestricted site closure requires the excavation and disposal of nearly the entire volume of fill. In addition, the lower portions of the fill are beneath the water table, with portions containing significant levels of dissolved and free phase contaminants.

For site planning purposes it is assumed that the waste soil and groundwater could be disposed as non-hazardous material. Soil would be placed into a Type II landfill. Recovered groundwater would either be treated on-site using applicable methods such as carbon adsorption and discharged to the river, or would be injected untreated into the two existing deep injection wells.

All surface features at the Northern Portion of the site would require removal prior to the site excavation effort. These features include ASTs, buildings, concrete dikes and foundations, and piles of slag, coal, gravel, and salt.

Replacement of the removed fill material would be preceded by some clean closure soil verification sampling. Due to the water table conditions however, there would not be extensive vadose zone soil available for sampling beneath the excavation. Soil samples would require full analytical scans of volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and metals. A new monitoring well network would be installed consisting of at least six nested locations, with each nest comprised of one 10-foot well and one 30-foot well. Well

sample results (VOCs, SVOCs, and dissolved metals) would be used in part to determine the effectiveness of the soil remediation effort and to monitor the expected decrease in groundwater contaminant levels following source removals.

For planning purposes it is also assumed that some groundwater free product areas will remain that will require localized product recovery efforts.

Following completion of the on-site remedial activities a closure report would be prepared and submitted to the MDEQ.

The schedule provided in Attachment A identifies the activities that would need to be conducted on the Northern Portion of the site and presents the timing of the various tasks.

Injection Well Closure

Should the City determine that the two deep injection wells should be closed, the description of well abandonment methods, costs, and schedules presented in the March 1996 Petrotek UIC Permit Re-Application can be used to estimate the scope of work. The detailed well plugging and abandonment methodology presented by Petrotek is not restated herein, but the prescribed closure plan should be adequate for City planning purposes.

Southern Portion

Site Preparation and Characterization

To best facilitate the management of site remediation activities, the initial project activity on the Southern Portion of the site should be to restrict access to all non-approved personnel and to initiate the removal of all commercial commodities (i.e., salt piles, gravel piles, slag piles, etc) from the site. WESTON also recommends that a meeting be held between the City and the MDEQ to discuss the proposed Remedial Strategy and to obtain their concurrence on the Strategy (especially regarding the desired mixing zone determinations).

MDEQ and private parties have conducted extensive characterization of the surface and subsurface soil and ground water on the Southern Portion of the site.

It is likely that additional monitoring wells will be required by the MDEQ along the river as part of the mixing zone determination. For planning purposes WESTON assumes that three additional well nests will be installed, with one shallow well (10-foot) and one deep well (30-foot) comprising each nest. Well samples would be analyzed for VOCs, SVOCs, and dissolved metals.

A RAP for the site should be prepared and submitted to the MDEQ for approval. The RAP would include a summary of all investigative and characterization activities completed to date and would present a FFS for the impacted soil and groundwater. The RAP should describe the following limited characterization activities:

- The rationale for calculating an average lead concentration of all vadose zone soil samples collected from the fill on the entire site (exposure unit). Using the 95% upper confidence limit (UCL) calculated average, it is highly likely that the lead concentration of 1,700 parts per million (ppm) detected in sampling location SB-89 will be allowed to remain without requiring remediation activities.

- The rationale for disallowing the benzene concentration (9,000 micrograms per kilogram [ug/kg]) in sampling location SB-42 (8-10') that exceeds the IIIC of 8,400 ug/kg. This sample concentration should be disallowed since the soil sample was collected from the saturated zone. A groundwater sample collected at the same location MW-104 did not indicate detectable levels of benzene.

- The rationale for pursuing a mixing zone determination to eliminate the IGSIC exceedances in monitoring wells along the Detroit River. Initial calculations indicate that levels of contaminants detected on site in the monitoring wells near the river are less than 20X the IGSIC. However, mixing zone determinations are decided on a site-specific basis so initial discussions should be made before RAP preparation begins.

Site Remediation

Following approval of the RAP by the MDEQ, it is anticipated that the following remediation activities would be required:

Excavation and disposal of limited areas in the Southern Portion of the site including the following:

- Soil Boring Location SB-37 – limited excavation and disposal of observed surficial oil to a depth of visually clean

- Soil Boring Location SB-30 – limited excavation and disposal of soil to groundwater depth. Verification sampling of soil for benzene analysis to determine if IIIC has been met, and sampling of groundwater for benzene analysis to determine if IIIC in groundwater has been exceeded.

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- Soil Boring Location SB-202 – limited excavation and disposal of soil to groundwater depth. Verification sampling for PAH analysis to determine if IDC has been met.

Following completion of the on-site remedial activities a closure report would be prepared and submitted to the MDEQ.

The schedule provided in Attachment A identifies the activities that would need to be conducted on the Southern Portion of the site and presents the timing of the various tasks.

COST ESTIMATE

The following summarizes the cost estimates developed by WESTON to implement the descried remedial strategies. Assumptions and details on which these cost estimates are based are presented in Attachment B.

Northern Portion

MDEQ Meetings	$2,000
Inventory and Characterization of On-site Waste Material	$53,500
Preparation of Specifications for Waste Material Disposal	$11,400
Waste Material Disposal	$5,000,000
UST Closure	$33,450
Monitoring Wells-Install and Sample (4 quarters)	$73,080
RAP Preparation	$16,400
Soil Remediation	$53,059,500
Groundwater Remediation – Year 1	$291,900
Groundwater Remediation – Year 2	$79,400
Closure Report Preparation	$6,400
Injection Well Closure	$62,200
TOTAL	**$58,689,230**

Southern Portion

MDEQ Meetings	$2,000
Monitoring Wells-Install and Sample	$26,060
RAP Preparation	$16,400
Soil Remediation	$4,050
Closure Report Preparation	$6,400
TOTAL	**$54,910**

CERCLA CLOSURE

At the present time the former Detroit Coke site is not identified on the National Priorities List (NPL) as a site under CERCLA. The site is listed on the Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS), as a NFRAP site indicating that *No Further Remedial Action is Pending* from the U.S. Environmental Protection Agency (U.S. EPA), although state cleanup programs may require additional investigation and remediation. Therefore, it is not likely that any additional costs would be incurred to achieve a CERCLA closure. It is very important to note that the site is still active under the under the RCRA Corrective Action Program and may still be subject to federal RCRA regulations even if the site is remediated under a state cleanup program. Discussions with the U.S. EPA Underground Injection Branch (UIB) along with additional research into this scenario is warranted prior to implementing any cleanup activities.

Should you have any questions or require additional information regarding this project, please feel free to contact Sally Bartz or Jeff Binkley at (313) 567-4000 .

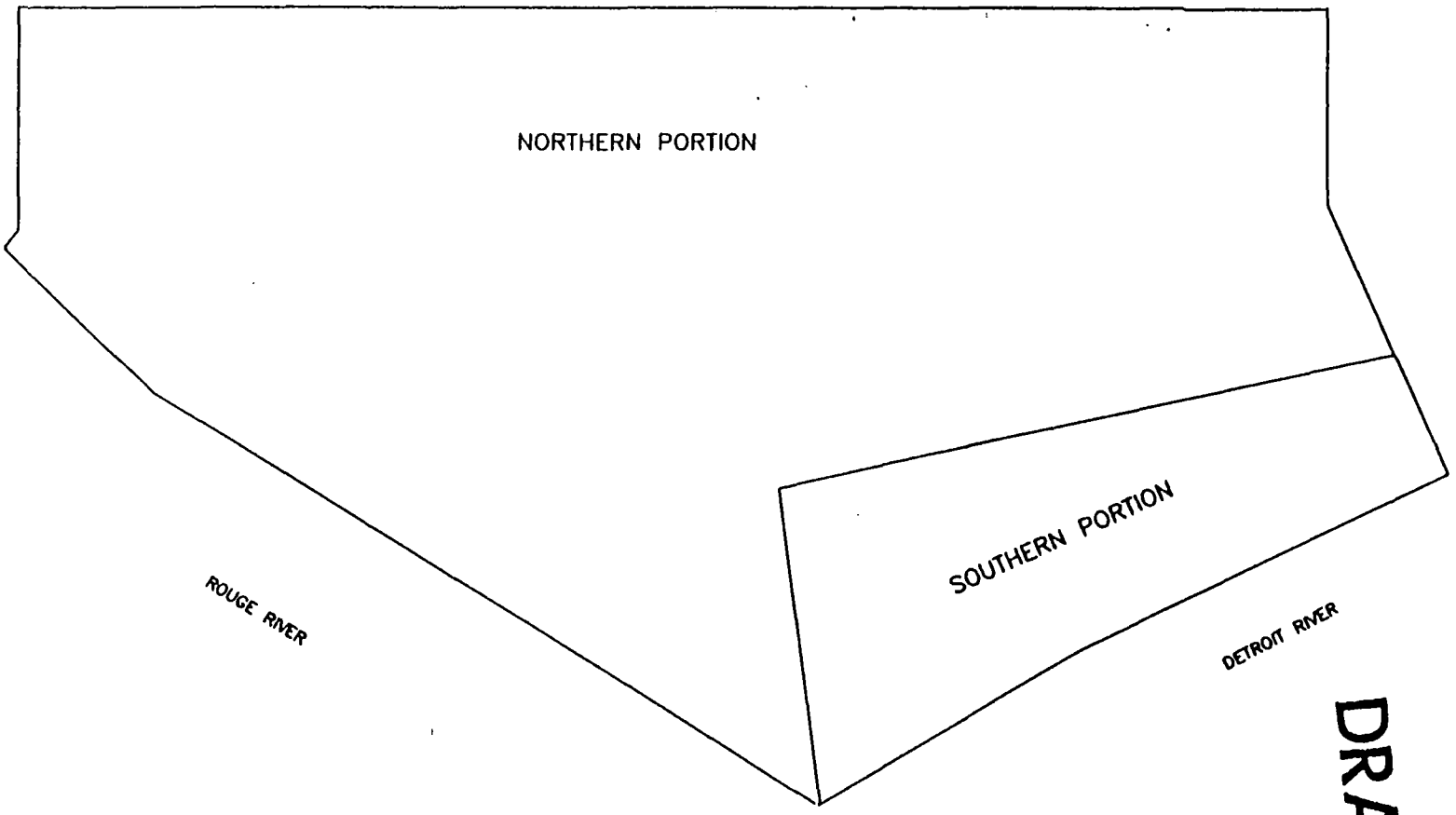
Very truly yours,

ROY F. WESTON, INC.

Sally Bartz
Principal Project Manager

Jeffrey S. Binkley
Program Manager

Attachments



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NOT TO SCALE

FIGURE 1

File Path and Name: OMI\PROJECTS\02257300.004\COKEA.DWG	Designed by: SB	Drawn By: TDC	Checked by: PB	Approved by: PB

WESTON MANAGERS DESIGNERS/CONSULTANTS

2125 University Park Dr.
Okemos, Michigan
48864

FORMER DETROIT COKE SITE
CITY OF DETROIT
Detroit, Michigan

ATTACHMENT A

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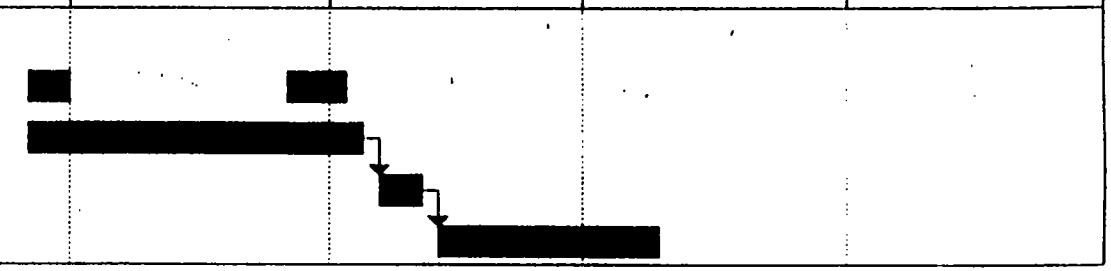
Detroit Coke Project Schedule
Southern Portion

ID	Task Name	Month 1	Month 2	Month 3	Month 4	Month 5
1	MDEQ Meeting					
2	Monitoring Wells - Install and Sample					
5	RAP Preparation					
6	Soil Remediation					
7	Closure Report Preparation					



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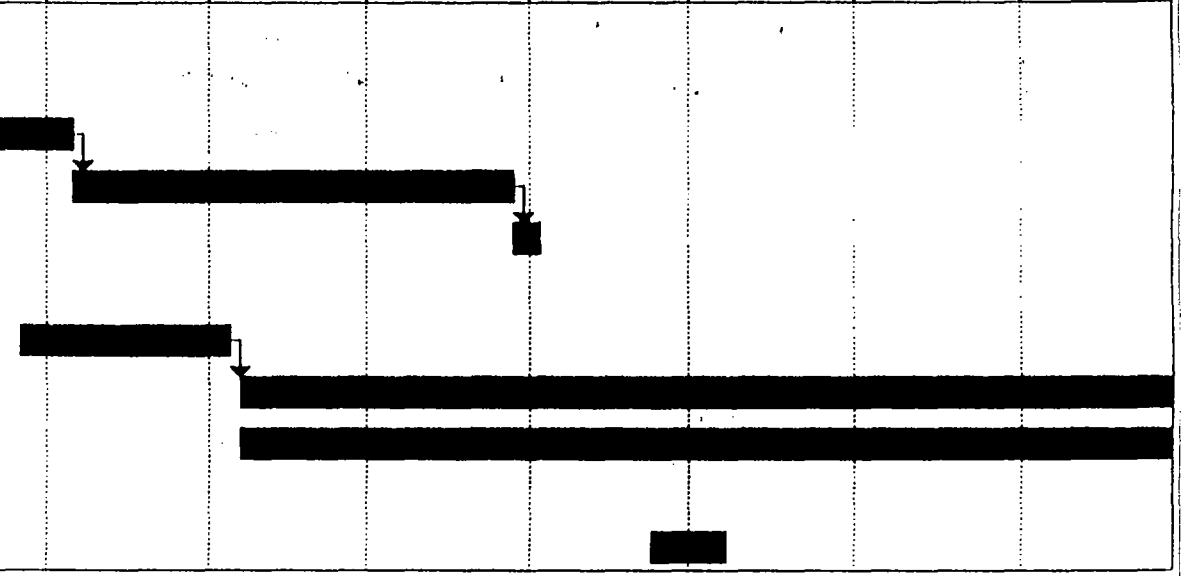
Project: southern.MPP
Date: 7/28/98

Task
Progress
Milestone
Summary
Rolled Up Task
Rolled Up Milestone
Rolled Up Progress

Detroit [illegible]e Project Schedule
[illegible]ern Portion

ID	Task Name	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8
1	MDEQ Meeting								
2	Inventory and Characterization of On-site Waste Material								
3	Preparation of Specifications for Waste Material Disposal								
4	Waste Material Disposal								
5	UST Closure								
6	Monitoring Wells - Install and Sample								
11	RAP Preparation								
12	Soil Remediation								
13	Groundwater Remediation								
14	Closure Report Preparation								
15	Injection Well Closure								



DRAFT

Project: northern.MPP
Date: 7/28/98

Task
Progress
Milestone
Summary
Rolled Up Task
Rolled Up Milestone
Rolled Up Progress

Detroit Coke Project Schedule
Northern Portion

ID	Task Name	Month 9	Month 10	Month 11	Month 12	Month 13	Month 14	Month 15
1	MDEQ Meeting							
2	Inventory and Characterization of On-site Waste Material							
3	Preparation of Specifications for Waste Material Disposal							
4	Waste Material Disposal							
5	UST Closure							
6	Monitoring Wells - Install and Sample							
11	RAP Preparation							
12	Soil Remediation							
13	Groundwater Remediation							
14	Closure Report Preparation							
15	Injection Well Closure							

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Project: northern.MPP
Date: 7/28/98

Task
Progress
Milestone
Summary
Rolled Up Task
Rolled Up Milestone
Rolled Up Progress

Detroit [redacted] Project Schedule
Northern Portion

ID	Task Name	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23
1	MDEQ Meeting								
2	Inventory and Characterization of On-site Waste Material								
3	Preparation of Specifications for Waste Material Disposal								
4	Waste Material Disposal								
5	UST Closure								
6	Monitoring Wells - Install and Sample		▮			▮			▮
11	RAP Preparation								
12	Soil Remediation								
13	Groundwater Remediation								
14	Closure Report Preparation								
15	Injection Well Closure								

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Project: northern.MPP
Date: 7/28/98

Task ▬▬ Summary ▬▬ Rolled Up Progress ▬▬
Progress ▬▬ Rolled Up Task ▬▬
Milestone ◆ Rolled Up Milestone ◇

WILSON MANAGERS ENGINEERS CONSULTANTS

SHEET 1 of 18

CLIENT/SUBJECT FORMER DETROIT COKE SITE W.O. NO. _____

TASK DESCRIPTION MDEQ MTG TASK NO. _____

PREPARED BY _____	DEPT _____	DATE _____	APPROVED BY	
MATH CHECK BY _____	DEPT _____	DATE _____	_____	
METHOD REV. BY _____	DEPT _____	DATE _____	DEPT _____	DATE _____

ASSUMPTIONS

- 2 ENGINEERING FIRM PERSONNEL ATTEND 2 MTGS WITH MDEQ & CITY TO DISCUSS REMEDIAL STRATEGY
- MTG IS CONDUCTED AT MDEQ IN DETROIT
- MTG LASTS 4 HOURS (EACH)

COST ESTIMATE

4 HOURS x $100/HR x 2 PERSONNEL = $800.00 x 2 = $1600

$400 FOR MISC ITEMS - HANDOUTS, COPYING, PARKING, MAPS

TOTAL $2,000.00

CLIENT/SUBJECT FORMER DEPOT CORE SITE W.O. NO. _____

TASK DESCRIPTION INVENTORY CHARACTERIZATION OF ON-SITE WASTE MAT'L TASK NO. _____

PREPARED BY _____ DEPT _____ DATE _____

MATH CHECK BY _____ DEPT _____ DATE _____

METHOD REV. BY _____ DEPT _____ DATE _____

APPROVED BY _____

DEPT _____ DATE _____

ASSUMPTIONS:

- 4 ENGINEERING FIRM PERSONNEL TO CONDUCT THROUGH INVENTORY & CHARACTERIZATION OF ALL POTENTIAL WASTE MAT'L PRESENT ON PROPERTY - INCLUDES ASTS - 5 DAYS ESTIMATED
- SAMPLING & CHARACTERIZATION ANALYSIS TO BE PERFORMED ESTIMATE 20 SAMPLES FOR VOCS, SVOCS, METALS, CN, PCBS, RCRA CHARACTERISTIC, TCLP METALS

COST ESTIMATE:

- 2 PERSONNEL × $75/HR × 10 HRS/DAY × 5 DAYS = 7500.00
- 2 PERSONNEL × 60/HR × 10 HRS/DAY × 5 DAYS = 6000.00
- SAMPLING SUPPLIES (USE) = 2500.00
  MONITORING SUPPLIES

- 20 SAMPLES × 2000.00/SAMPLE = 40,000

TOTAL $53,500.00

CLIENT/SUBJECT FORMER DETROIT COKE SITE W.O. NO. _____

TASK DESCRIPTION PREPARATION OF SPECS FOR WASTE DISPOSAL TASK NO. _____

PREPARED BY _____ DEPT _____ DATE _____

MATH CHECK BY _____ DEPT _____ DATE _____

METHOD REV. BY _____ DEPT _____ DATE _____

APPROVED BY _____

DEPT _____ DATE _____

ASSUMPTIONS

- FOLLOWING COMPLETION OF THE INVENTORY & WASTE CHARACTERIZATION ACTIVITIES, ENGINEERING FIRM WILL PREPARE SPECIFICATIONS FOR REMOVAL & DISPOSAL OF WASTE MATERIAL
- ENGINEERING FIRM WILL SOLICIT BIDS FROM APPROVED FIRMS TO COMPLETE WASTE REMOVAL & DISPOSAL

COST ESTIMATES

- 20 HRS	X $50/HR =	1000.00	CAD/D
- 80 HRS	X $75/HR =	6000.00	PERT SCIENTIST
- 30 HRS	X $100/HR =	3000.00	PROJECT MGR
- 10 HRS	X $40/HR =	460.00	SUPPORT
		10,460.00	

- 1000.00 FOR BID SPEC COPYING/SHIPPING/FAX/TELEPHONE

TOTAL $ 11,460.00

CLIENT/SUBJECT FORMER DETROIT COKE SITE W.O. NO. _____

TASK DESCRIPTION WASTE MATERIAL DISPOSAL TASK NO. _____

PREPARED BY _____ DEPT _____ DATE _____

MATH CHECK BY _____ DEPT _____ DATE _____

METHOD REV. BY _____ DEPT _____ DATE _____

APPROVED BY _____

DEPT _____ DATE _____

ASSUMPTION: *

- TWO 1,000,000 GALLON ASTS PRESENT AT SITE
- ASSUME 75% FULL OF NON-PUMPABLE VISCOUS HAZARDOUS MATERIAL
- REMOVAL WILL REQUIRE HEATING MATERIAL VIA STEAM COILS & BOILER TO REMOVE & DISPOSE
- STEAM JACKETED TANKERS REQ'D TO TRANSPORT
- DISPOSAL VIA INCINERATION

COST ESTIMATE

- 1,000,000 GALLONS × $5.00/GALLON = $5,000,000.00

REMOVAL TRANSPORT & DISPOSAL

* HAVE ONLY BEEN DRILLED FOR ASTS SINCE QUANTITY OF OTHER WASTE MATL ONSITE IS UNKNOWN

UST REMOVAL COST ESTIMATE
ROY WESTON, INC.
7/28/98

Assumptions:

1. The USTs are not covered with a concrete slab.
2. Tank and all associated piping will be cleaned, removed, trasported and disposed of off-site.
3. The USTs are 100% full of product.
4. The USTs will require off-site transportation and disposal of soil.
5. The USTs backfilling will require off-site fill material.
6. Groundwater will not be encountered and that the USTs removal will not require any excavation de-watering activities.
7. The removal of the USTs will not require working around any underground utilities.
8. Tanks were leaking and verification of soil remediation samples are required to confirm clean excavation. Site wide soil excavation may eliminate the excavation and sampling effort.

Description of Tank: 12,000 gallon Fuel Oil UST

Discription of Costs:

Excavate, transport and dispose of soil:	290 cubic yard(s)	$20.00 /cy	$5,800.00
Backfill:	350 cubic yard(s)	$12.00 /cy	$4,200.00
Non-hazardous liquids:	12,200 gallon(s)	$0.82 /gallon	$10,004.00
Samples analyzed for PAH/BTEX/TMB - Standard Turnaround Time	21 sample(s)	$200.00 /sample	$4,200.00
Oversight	20 hour(s)	$75 /hour	$1,500.00
Total			**$25,704.00**

CLIENT/SUBJECT _____ W.O. NO. _____

TASK DESCRIPTION 12,000 gal Fuel Oil UST TASK NO. _____

PREPARED BY W. Taarola DEPT 1174 DATE 7/27/98

MATH CHECK BY _____ DEPT _____ DATE _____

METHOD REV. BY _____ DEPT _____ DATE _____

APPROVED BY _____

DEPT _____ DATE _____

Assume excavation includes 4' on each side of tank, 4' below tank and 1' of soil on top of tank.

Area of Excavation

$45' \times 16' \times 13' = 9360\ ft^3 \div 27\ ft^3/cy = 350\ cy.$

Area of Tank

$12{,}000\ gal \times \frac{0.1337\ ft^3}{gal} = 1605\ ft^3 \div 27\ ft^3/cy = 60\ cy.$

Estimated Volume of Soil to be removed

Area of excavation	350 cy
Area of tank	60 cy
	290 cy

Estimated volume of fill

335 cy fill
15 cy crushed stone
350 cy.

UST REMOVAL COST ESTIMATE
ROY WESTON, INC
7/28/98

Assumptions:

1. The USTs are not covered with a concrete slab.
2. Tank and all associated piping will be cleaned, removed, trasported and disposed of off-site.
3. The USTs are 100% full of product.
4. The USTs will require off-site transportation and disposal of soil.
5. The USTs backfilling will require off-site fill material.
6. Groundwater will not be encountered and that the USTs removal will not require any excavation de-watering activities.
7. The removal of the UST's will not require working around any underground utilities.
8. Tanks were leaking and verification of soil remediation samples are required to confirm clean excavation. Site wide soil excavation may eliminate the excavation and sampling effort.

Description of Tank: 1,000 gallon Gasoline UST

Discription of Costs:

Excavate, transport and dispose of soil:	92 cubic yard(s)	$20.00 /cy	$1,840.00
Backfill:	97 cubic yard(s)	$12.00 /cy	$1,164.00
Hazardous liquids:	1,100 gallon(s)	$1.72 /gallon	$1,892.00
Samples analyzed for BTEX and Lead - Standard Turnaround Time	18 sample(s)	$75.00 /sample	$1,350.00
Oversight	20 hour(s)	$75 /hour	$1,500.00
Total			**$7,746.00**

CLIENT/SUBJECT _____ W.O. NO. _____

TASK DESCRIPTION 1,000 gal Gasoline UST. TASK NO. _____

PREPARED BY W. Taavola DEPT 1174 DATE 7/27/98

MATH CHECK BY _____ DEPT _____ DATE _____

METHOD REV. BY _____ DEPT _____ DATE _____

APPROVED BY _____

DEPT _____ DATE _____

Assume excavation includes 4' on each side of tank, 4' below tank, and 1' of soil on top of tank.

Area of Excavation

$20' \times 13' \times 10' = 2600\ ft^3 \div 27\ ft^3/cy = 97\ cy.$

Area of Tank

$1{,}000\ gal \times \frac{0.1337\ ft^3}{gal} = 133.7\ ft^3 \div 27\ ft^3/cy = 5\ cy.$

Estimated volume of soils to be removed

Area of excavation	97 cy
Area of tank	5 cy
	92 cy

Estimated volume of fill

92 cy	fill
5 cy	crushed stone
97 cy.	

CLIENT/SUBJECT _____ W.O. NO. _____

TASK DESCRIPTION Verification sampling for Soil TASK NO. _____

PREPARED BY _____ DEPT _____ DATE _____

MATH CHECK BY _____ DEPT _____ DATE _____

METHOD REV. BY _____ DEPT _____ DATE _____

APPROVED BY _____

DEPT _____ DATE _____

	1,000 gal UST	12,000 gal UST
# of floor samples	2	3
# of side wall samples	16	18
Total # of samples.	18	21

1,000 gal UST excavation

Area of floor = 20' x 13' = 260 ft²
Area of sidewalls = 20' x 10 = 200 ft² = 960 ft²
13' x 10' = 130 ft²

12,000 gal UST excavation

Area of floor = 45' x 16' = 720 ft²
Area of sidewalls = 45' x 13' = 585 ft² 2300 ft²
16' x 13' = 208 ft²

WOODWARD-CLYDE MANAGERS DESIGNERS CONSULTANTS

SHEET 10 of 18

CLIENT/SUBJECT Former Det. Coke Site W.O. NO. _____

TASK DESCRIPTION Well Install + Sample - N + S TASK NO. _____

PREPARED BY _____ DEPT _____ DATE _____

MATH CHECK BY _____ DEPT _____ DATE _____

METHOD REV. BY _____ DEPT _____ DATE _____

APPROVED BY _____ DEPT _____ DATE _____

Assumptions

- Eng firm will provide solicitation/supervision of drill sub and prepare well construction report
- Assume separate mobs for the southern Parcel first, followed by the Northern Parcel after site excavation

Southern Parcel

- 3 Well Nests (10' and 30' each)
- 5 Days drill - develop
- Qtrly sampling for 1 Year

Costs

Drill Sub		#12,000
Engineer	60 Hrs x #75/Hr	4,500
Sample Crew	4 days x 8 hrs x #100/Hr	3,200
Lab (6 wells + 1 QA/QC)		
VOC	7 x 2 x 100#	1,400
SVOC	7 x 2 x 200#	2900
Metals	7 x 2 x 120#	1,680
Field Expenses	4 days x #20	480
Total		#26,000

Northern Parcel

- 6 Well Nests (10' + 30') / Qtr Sample
- 7 Days Drill - Develop / for 1 Year

Costs

Drill Sub		#24,000
Engineer	120 Hrs x #75/Hr	9,000
Sample Crew	9 days x 8 hrs x #100/Hr	14,400
Lab (As Above 12 wells + 2 QA/QC)		2,520
Field Expenses	12 days x #20	240
Total		#50,160

CLIENT/SUBJECT FORMER DETROIT COKE SITE W.O. NO. _____

TASK DESCRIPTION RAP PREPARATION TASK NO. _____

PREPARED BY _____ DEPT _____ DATE _____

MATH CHECK BY _____ DEPT _____ DATE _____

METHOD REV. BY _____ DEPT _____ DATE _____

APPROVED BY _____

DEPT _____ DATE _____

ASSUMPTIONS:

- ENGINEERING FIRM WILL PREPARE RAP TO INCLUDE A SUMMARY OF ALL INVESTIGATIVE ACTIVITIES CONDUCTED AT SITE, SUMMARY OF ANALYTICAL DATA GENERATED, & FFS EVALUATING APPLICABLE REMEDIAL ALTERNATIVES & RECOMMENDED REMEDIAL ALTERNATIVE WILL BE PRESENTED
- COPY FOR MDEQ & CITY

COST ESTIMATES

- 10 HRS X	$40/HR	= 400	SUPPORT
- 50 HRS X	$50/HR	= 2500	CADD
- 126 HRS X	$75/HR	= 9000.00	ENGINEER
- 40 HRS X	100/HR	= 4000.00	PROJ MGR /SR GEOLOGIST
		15,900.00	

- 500 FOR FAX / SHIPPING / OUTSIDE REPRODUCTIONS

TOTAL $ 16,400.00

CLIENT/SUBJECT FORMER DETROIT COKE SITE W.O. NO. _____

TASK DESCRIPTION SOIL REMEDIATION - SOUTHERN TASK NO. _____

PREPARED BY _____ DEPT _____ DATE _____

MATH CHECK BY _____ DEPT _____ DATE _____

METHOD REV. BY _____ DEPT _____ DATE _____

APPROVED BY _____

DEPT _____ DATE _____

ASSUMPTIONS:

- SB 37 EXCAVATION
  → 5' x 5' x 5' / 27 = ~ 5 yd³
  → NO SAMPLES
- SB 30 EXCAVATION
  → 5' x 5' x 10'/27 = ~ 10 yd³
  → 4 SOIL BENZENE / 1 H_2O BENZENE
- SB 202 EXCAVATION
  → 5' x 5' x 10'/27 = ~ 10 yd³
  → 5 SOIL PAH:

COST ESTIMATES

- 25 yd³ x $12/yd³ = 360.00 - BACKFILL
- 25 yd³ x $20/yd³ = 500.00 - EXCAVATE/TRANSPORT/DISPOSE
- 4 SOIL BENZENE x $60/EA = 240.00
- 1 H_2O BENZENE x $60/EA = 60.00
- 5 SOIL PAH x $140.00/EA = 700.00

- OVERSIGHT & SAMPLE

3 DAYS x $75/HR x 10 HR/DAY = $2250.00

TOTAL $ 4050.00

CLIENT/SUBJECT Former Detroit Coke Site W.O. NO. _____

TASK DESCRIPTION Soil Remediation - NORTHERN TASK NO. _____

PREPARED BY _____ DEPT _____ DATE _____

MATH CHECK BY _____ DEPT _____ DATE _____

METHOD REV. BY _____ DEPT _____ DATE _____

APPROVED BY

DEPT _____ DATE _____

Assumptions (For Unrestricted Generic Industrial Closure)

- Northern Parcel to be excavated to an average depth of 11 feet (Typically all fill and top few feet of native).
- Average depth to water is 5 feet.
- Total area to be excavated is 2,400,000 ft^2, or 978,000 yd^3 (at 11 feet thick).
- Of 978,000 yd^3, 255,727 yd^3 are saturated and will require dewatering.
- Assuming 30% porosity, and 2 pore volumes, total liquids for disposal during excavation is 32,320,000 gal
- Using either a groundwater treatment system or the two injection wells, and a rate of 140 gpm, a total of 160 days would be the minimum duration of extracted groundwater handling.
- Assumes all soil can be landfilled Type II.
- Assumes all surface features (A-T's, Bldgs, Piles) removed prior to soil excavation.

Cost Estimate*
Excavation/Off-site Non-Hazardous Disposal
Former Detroit Coke Site -Northern Portion
Detroit Michigan

ITEM OF WORK	COST ESTIMATES					COMMENTS
	Quantity	Unit	Unit Price	Cost	Subtotal	
SITE CONSTRUCTION COSTS:						
MOBILIZATION	1	Estimate	$5,000	$5,000		Oversight personnel, excavation personnel and equipment
Subtotal					$5,000	
FILL SOIL REMOVAL						Includes excavation, transport, and disposal
Soil Excavation	978,000	CY	$4	$3,912,000		Assumes an average excavation depth of 11 feet.
Waste Characterization Analysis	4	Test	$500	$2,000		
Soil Transport & Disposal	1,271,400	CY	$20	$25,428,000		Estimate. Assuming non- hazardous disposal/Bulking of 30%
Backfill Materials	1,075,800	CY	$10	$10,758,000		Assumes 10% bulking.
Backfilling/Grading	1,075,800	CY	$2	$2,151,600		
Subtotal					$42,251,600	
CONFIRMATION TESTING						
Floor Sample Analysis	10	Sample	$500	$5,000		Encountered water table decreases sample volume.
Sidewall Sample Analysis	20	Sample	$500	$10,000		Assuming standard turnaround.
Subtotal					$15,000	
SUPPORT COSTS						
ENGINEERING						
Project Engineer	160	Hour	$75	$12,000		
Project Manager	80	Hour	$100	$8,000		
Subtotal					$20,000	
CONTRACTOR PROCUREMENT(S)	1	Estimate	$5,000	$5,000		Acquiring appropriate excavation and disposal subcontractors
Subtotal					$5,000	
CONSTRUCTION MANAGEMENT						Assuming 50 weeks of excavation activities.
Engineering/Oversight	2500	Hour	$60	$150,000		Excavation and disposal activities direction and oversight
Health and Safety Monitoring	1	Estimate	$1,000	$1,000		Health and Safety Plan preparation and monitoring equipment
Subtotal					$151,000	
SUB-TOTAL: (Capital/Construction)					$42,447,600	
CONTINGENCY (25%)					$10,611,900	
TOTAL CAPITAL COST WITH CONTINGENCY					$53,059,500	

* Total Estimated Cost has a +/-10% accuracy range.

Cost Estimate*
Recovered Groundwater from Soil Excavation
Former Detroit Coke Site -Northern Portion
Detroit Michigan

ITEM OF WORK	COST ESTIMATES					COMMENTS
	Quantity	Unit	Unit Price	Cost	Subtotal	
SITE CONSTRUCTION COSTS:						
MOBILIZATION	1	Estimate	$2,000	$2,000		Oversight personnel and equipment
Subtotal					$2,000	
GROUNDWATER HANDLING						
Recovery	16,000,000	GAL	$0.01	$160,000		Assumes dewatering charge during soil excavation
Construction of Conveyance System	1	est.	$10,000	$10,000		From soil staging area to injection wells
Injection Well Permitting/Monitoring	1	1 Year	$10,000	$10,000		
Injection Well O&M	1	1 Year	$24,000	$24,000		
Subtotal					$204,000	
SUPPORT COSTS						
ENGINEERING						
Project Engineer	200	Hour	$75	$15,000		Management of system during excavation
Project Manager	100	Hour	$100	$10,000		Management of system during excavation
Subtotal					$25,000	
CONTRACTOR PROCUREMENT(S)	1	Estimate	$2,500	$2,500		Acquiring appropriate well piping and O&M subcontractors
Subtotal					$2,500	
SUB-TOTAL (Capital/Construction)					$233,500	
CONTINGENCY (25%)					$58,400	
TOTAL CAPITAL COST WITH CONTINGENCY					$291,900	

* Total Estimated Cost has a +/-10% accuracy range.

Cost Estimate*
Remaining Groundwater Remediation After Excavation
Former Detroit Coke Site -Northern Portion
Detroit Michigan

ITEM OF WORK	COST ESTIMATES					COMMENTS
	Quantity	Unit	Unit Price	Cost	Subtotal	
SITE CONSTRUCTION COSTS:						
MOBILIZATION	1	Estimate	$2,000	$2,000		Oversight personnel and equipment
Subtotal					$2,000	
GROUNDWATER EXTRACTION						
Recovery Wells Installation	3	well	$5,000.00	$15,000		Assumes 3 areas onsite will need gw collection
Construction of Conveyance System	1	est.	$5,000	$5,000		
Injection Well Monitoring	1	1 Year	$5,000	$5,000		
Extraction Well O&M	1	1 Year	$24,000	$24,000		Assumes gw extraction during the year after soil excavation.
Subtotal					$49,000	
SUPPORT COSTS						
ENGINEERING						
Project Engineer	80	Hour	$75	$6,000		Management of extraction system
Project Manager	40	Hour	$100	$4,000		Management of extraction system
Subtotal					$10,000	
CONTRACTOR PROCUREMENT(S)	1	Estimate	$2,500	$2,500		Acquiring appropriate well installation and O&M subcontractors
Subtotal					$2,500	
SUB TOTAL. (Capital/Construction)					$63,500	
CONTINGENCY (25%)					$15,900	
TOTAL CAPITAL COST WITH CONTINGENCY					$79,400	

* Total Estimated Cost has a +/-10% accuracy range.

CLIENT/SUBJECT FORMER DETROIT COKE SITE W.O. NO. _____

TASK DESCRIPTION CLOSURE REPORT PREPARATION TASK NO. _____

PREPARED BY _____ DEPT _____ DATE _____

MATH CHECK BY _____ DEPT _____ DATE _____

METHOD REV. BY _____ DEPT _____ DATE _____

APPROVED BY

_____

DEPT _____ DATE _____

ASSUMPTIONS

- FOLLOWING COMPLETION OF THE SOIL & GROUNDWATER REMEDIATION ACTIVITIES, ENGINEERING FIRM WILL PREPARE A WRITTEN REPORT SUMMARIZING REMEDIATION ACTIVITIES & LABORATORY RESULTS
- COPY FOR MDEQ & CITY

COST ESTIMATE

+	20 HRS × $50/HR =	$1000.00	CADD OPERATOR
+	40 HRS × $75/HR =	$3000.00	PROJ GEOLOGIST/ENGR
+	15 HRS × $100/HR =	1500.00	PROJECT MGR
+	10 HRS × $40/HR =	$400.00	SUPPORT
		5900.00	

+ $500.00 FOR FAX/SHIPPING/OUTSIDE REPRODUCTION

TOTAL $ 6400.00

CLIENT/SUBJECT FORMER DETROIT COKE SITE W.O. NO. _____

TASK DESCRIPTION INJECTION WELL CLOSURE TASK NO. _____

PREPARED BY _____ DEPT _____ DATE _____

MATH CHECK BY _____ DEPT _____ DATE _____

METHOD REV. BY _____ DEPT _____ DATE _____

APPROVED BY

_____

DEPT _____ DATE _____

ASSUMPTIONS:

- INJECTION WELLS CAN BE CLOSED IN ACCORDANCE WITH PROCEDURES & COSTS OUTLINED IN THE "UIC PERMIT RE-APPLICATION - DETROIT COKE CORPORATION - TWO CLASS I HAZARDOUS DISPOSAL WELLS - MARCH 27, 1996" DOCUMENT PREPARED BY PETRETEK

- 1 ENGINEERING PERSONNEL WOULD PERFORM OVERSIGHT OF CLOSURE ACTIVITIES

COST ESTIMATE

ESTIMATED COST USING STANDARD CEMENT FOR CLOSURE = $27,100/WELL × 2 WELLS = $54,200
(FROM PETRETEK DOCUMENT)

40 HOURS/DAY × 10 DAYS × $75/HR = $7500.00

$500 FOR MISC ITEMS - CAMERA, VEHICLE, LODGING, MEALS

TOTAL → $62,200.00

4 August 1998

Mr. Ramesh Patel
City of Detroit
Planning and Development Department
65 Cadillac Square, Suite 1602
Detroit, Michigan 48226

DRAFT

Re: Waterfront Reclamation and Casino Project Work Order No.: 02257[illegible]004
WESTON Contract No.: 78482
Additional Cost Estimates and Analysis – Former Detroit Coke Site

Dear Mr. Patel:

Roy F. Weston, Inc. (WESTON®) has prepared this letter report describing our additional analysis and cost estimate for the remediation and potential redevelopment of the former Detroit Coke site. This work was completed for the City of Detroit (City) Planning and Development Department (PDD) in accordance with our proposal dated 3 August 1998 and pursuant to Section 3.02 of the above-referenced contract. Our original submittal of 28 July 1998 described the requirements to achieve unrestricted site closures for the Northern and Southern Portions of the site. This letter report describes the more realistic remedial actions available to achieve a Michigan Department of Environmental Quality (MDEQ) Restricted Industrial site closure(s).

This letter report is organized into four main sections:

- The technical approach used to conduct the cost estimating and analysis tasks.
- A description of WESTON's analysis of the site and a presentation of the candidate remedial strategies, including the anticipated project schedules.
- Additional options regarding site partitioning.
- Cost estimates to implement the remedial strategies.

TECHNICAL APPROACH

WESTON conducted the following activities during the project:

- WESTON continued to review of all available reports pertaining to the environmental condition of the property.
- Based upon the reports review, WESTON identified several remedial strategies to achieve a MDEQ Restricted Industrial Closure under Part 201 with respect to (a) the Northern Portion of the site and (b) the Southern Portion of the site in a manner that would permit construction of one or more industrial structures.
- WESTON identified the site preparation, characterization, and remedial activities required to implement the proposed remedial actions.

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- WESTON developed a conceptual remedial action/site closure schedule.
- WESTON developed engineer's estimates to achieve site closure.

ANALYSIS AND REMEDIAL STRATEGY

Generic (Unrestricted) Industrial Closure Requirements

To obtain a MDEQ-Generic Industrial Closure the following criteria must be achieved:

- Meet Industrial Direct Contact Criteria (IDCC) for soil and groundwater.
- Meet Industrial Indoor Inhalation Criteria (IIA) and Industrial Ambient Air Inhalation Criteria (IAA) for soil and groundwater.
- Meet Industrial Groundwater-Surface Water Interface Criteria (IGSIC), or mixing zone requirements, for groundwater near the rivers. IGSIC for soils are not applicable at the site because in-situ groundwater data is available.
- Remediate free product areas.

Restricted Industrial Closure Requirements

To obtain a MDEQ-Restricted Industrial Closure the following criteria must be achieved:

- Implement engineering controls to eliminate contact with soil and groundwater contaminated above IDCC.
- Implement engineering controls or remediate the site to eliminate exposure to vapors from soil and groundwater contaminated above Industrial Indoor and Ambient Air Inhalation Criteria (IIA and IAA).
- Meet IGSIC or mixing zone requirements for groundwater near the rivers. IGSIC for soils are not considered applicable at the site because in-situ groundwater data is available.
- Remediate free product areas.

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Key File Review Findings

During the file review WESTON identified several key findings regarding soil and groundwater conditions at the site. In summary, site soils are impacted with metals that exceed IDCC, semi-volatile organic compound (SVOCs) that exceed IDCC, IIA, and IAA, and benzene that exceeds the IIA and IAA. In addition, free product was observed in soils at numerous sampling locations.

Site groundwater contains volatile organic compounds (VOCs), SVOCs, and metals that exceed IGSIC. SVOCs also exceed IDCC for groundwater. In addition, free product was observed in six of the on-site monitoring wells. Tables 1 and 2 summarize organic detections that exceeded MDEQ inhalation criteria.

Also of note, two underground storage tanks (USTs) reportedly remain beneath the Northern Portion of the site, consisting of one 1,000-gallon gasoline UST and one 12,000-gallon diesel fuel UST.

As described in WESTON's letter dated 28 July 1998, a boundary between the Northern and Southern Portions of the site was determined in part based on an interpretation of the aerial extent of significant soil and groundwater contaminants (Figure 1). WESTON evaluated existing soil and groundwater data and delineated a Southern Portion that could most easily be granted a MDEQ-Generic Industrial Closure (unrestricted). The resulting Northern Portion of the site therefore is comprised of the most environmentally impaired areas, and is the primary focus of this additional engineering analysis.

The uppermost soil beneath the Northern Portion of the site (consisting entirely of granular fill averaging 11 feet thick) contains material with MDEQ health-based cleanup criteria exceedances and widespread petroleum-saturated conditions. WESTON delineated and mapped the lateral extent of vadose zone soil that was identified in the 1998 Malcolm Pirnie investigation report as containing noticeable free product (i.e. oil or tar-covered grains, or visible viscous liquid in the soil matrix). WESTON then increased the aerial extent of the delineation to include those locations containing vadose zone soil with VOC or SVOC levels above IIA and IAA criteria. This increased the delineation only a minor amount. Figure 2 shows the resulting area of significantly impacted vadose zone soil.

WESTON also delineated and mapped the lateral extent of saturated zone soil that was identified in the 1998 Malcolm Pirnie investigation report as containing noticeable free product (i.e. oil or tar-covered grains, or visible viscous liquid in the soil matrix). WESTON then increased the aerial extent of the delineation to include those locations containing saturated zone soil with VOC or SVOC levels above IIA and IAA criteria. This increased the delineation only a minor amount. Figure 3 shows the resulting area of significantly impacted saturated zone soil.

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Groundwater analytical results were compared to IGSIC criteria nearest the rivers and IIA and IAA criteria across the entire site. Figure 4 shows the locations where groundwater VOC and SVOC levels exceed these criteria.

Following the additional review of available information for the site, WESTON developed the following strategy for use in obtaining MDEQ-Industrial Closures for the Northern and Southern Portions of the former Detroit Coke site.

Northern Portion

Site Preparation and Characterization

As described in our 28 July 1998 letter, access restrictions should be placed on the property to best facilitate the management of site remediation activities. The initial project activity on the Northern Portion of the site should be to restrict access to all non-approved personnel and to initiate the removal of all commercial commodities (i.e., salt piles, gravel piles, slag piles, etc) from the site. WESTON also recommends that a meeting be held between the City and the MDEQ to discuss the proposed Remedial Strategy and to obtain their concurrence on the Strategy.

A comprehensive inventory of all potential waste material present on the Northern Portion of the property should be compiled (waste material in two 1,000,000 gallon aboveground storage tanks [ASTs], waste tar observed on the surface, water and oil observed in diked areas and vaults, etc). Sampling and characterization of the identified material should also be conducted. Following completion of the waste material characterization activities, WESTON recommends that the material be removed and disposed of. This activity includes the preparation of biddable specifications for material removal, the solicitation of bids from removal contractors, and the performance of management and oversight tasks during all removal activities.

All surface features at the Northern Portion of the site would require removal prior to the site remediation effort. These features include ASTs, buildings, concrete dikes and foundations, and piles of slag, coal, gravel, and salt.

The two USTs that have been tentatively identified at the Northern Portion of the site should be emptied and removed in accordance with MDEQ-Storage Tank Division (STD) guidelines. WESTON understands that Due Care Obligations of the current landowner (Allied Chemical) may be impetus for the private party to properly address the USTs.

The rationale for pursuing a mixing zone determination is to eliminate the IGSIC exceedances in monitoring wells along the Rouge River. Initial calculations indicate that levels of contaminants detected on site in the monitoring wells near the river are less than 20X the IGSIC. However,

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mixing zone determinations are decided on a site-specific basis so initial discussions should be made before Remedial Action Plan (RAP) preparation begins.

Following the completion of these activities, a RAP for the site should be prepared and submitted to the MDEQ for approval. The RAP should include a summary of all investigative and characterization activities completed to date and should present a focused feasibility study (FFS) for the impacted soil and groundwater.

Site Remediation

Following approval of the RAP by the MDEQ, it is anticipated that the following remediation activities could be employed:

Due to the widespread presence of fill material exhibiting IIA and IAA exceedances, or containing free product across the Northern Portion of the site, site closure requires the remediation of nearly the entire volume of fill delineated in Figure 2. This fill volume is approximately 224,500 cubic yards, and is calculated using the ground surface to the top of the water table for thickness. Note that the lower portions of the fill are beneath the water table, with portions containing significant levels of dissolved and free phase contaminants. This saturated zone would be dealt with as a groundwater concern. Figure 3 shows the aerial extent of free product in saturated zone soils. Figure 4 shows the aerial extent of groundwater contamination and free product.

For site planning purposes three remediation alternatives are evaluated herein. These include:

Alternative 1) Selective Soil Excavation with On-Site Thermal Treatment, Exposure Barrier Placement, Localized Groundwater/Free Product Remediation, Groundwater Monitoring, and Land-Use Restrictions:

This alternative includes the excavation and on-site treatment of the 224,500 cubic yards of significantly impacted vadose zone soil using a high temperature thermal treatment mobile facility. Soil would be excavated, staged, and prepared for incineration. Assuming a feed rate of 1,000 cubic yards of soil per day, the soil remediation would require 10 months to complete. All treated soil would be placed back into the excavation.

Following remediation it may be recommended (or required) to install vapor barrier membranes across those areas of the site exceeding volatilization/inhalation criteria. This decision could be made based on future land uses and building placements.

As shown on Figure 2, free product is generally present at three locations across the Northern Portion (including the PZ-4S/4D well). Remediation of the free product would be required, and would consist of four dual phase recovery wells pumping at a combined rate of 30 gallons per minute (gpm). Recovered liquids would be conveyed to a central oil-water separator, with

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the resulting wastewater injected into the two deep injection wells and the separated petroleum product stored in a Frac Tank for subsequent disposal or recycling.

Following soil remediation efforts a new monitoring well network would be installed in the Northern Portion of the site consisting of at least six nested locations, with each nest comprised of one 10-foot well and one 30-foot well. Well sample results (VOCs, SVOCs, and dissolved metals) would be used in part to determine the effectiveness of the soil remediation effort and to monitor the expected decrease in groundwater contaminant levels following source removals. Groundwater monitoring would also be required near the Rouge River as part of anticipated mixing zone agreements with the MDEQ.

Land Use Restrictions would be required due to the presence of impacted groundwater, the uncertainties of residual soil contamination in unexcavated areas, and the planned Industrial Land Use.

Alternative 2) Selective Soil Excavation with Soil-Asphalt Emulsion Mixing and Re-Use, Exposure Barrier Placement, Localized Groundwater/Free Product Remediation, Groundwater Monitoring, and Land-Use Restrictions:

This alternative includes the excavation and on-site stabilization of the 224,500 cubic yards of significantly impacted vadose zone soil by mixing the soil with asphalt emulsion in an on-site Pug Mill. Resulting emulsified treated base product would be reused either as engineered subbase material for asphalt road construction or as asphalt cold patch. This method advantageously recoups up to $10.00 per ton of marketable roadway construction product. In addition, proprietary emulsion products exist that chemically fixate metal contaminants within the soil-emulsion matrix, if necessary. Contaminated soil would be excavated, staged, and prepared for mixing. Assuming a feed rate of 1,500 cubic yards of soil per day, the soil remediation would require 7 months to complete. The excavated area would require the importation of backfill to replace 100% of the remediated volume.

Following remediation it may be recommended (or required) to install vapor barrier membranes across those areas of the site exceeding volatilization/inhalation criteria. This decision could be made based on future land uses and building placements.

As shown on Figure 2, free product is generally present at three locations across the Northern Portion (including the PZ-4S/4D well). Remediation of the free product would be required, and would consist of four dual phase recovery wells pumping at a combined rate of 30 gpm. Recovered liquids would be conveyed to a central oil-water separator, with the resulting wastewater injected into the two deep injection wells and the separated petroleum product stored in a Frac Tank for subsequent disposal or recycling.

Following soil remediation efforts a new monitoring well network would be installed in the Northern Portion of the site consisting of at least six nested locations, with each nest comprised of one 10-foot well and one 30-foot well. Well sample results (VOCs, SVOCs, and dissolved metals) would be used in part to determine the effectiveness of the soil remediation effort and to monitor the expected decrease in groundwater contaminant levels

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following source removals. Groundwater monitoring would also be required near the Rouge River as part of anticipated mixing zone agreements with the MDEQ.

Land Use Restrictions would be required due the presence of impacted groundwater, the uncertainties of residual soil contamination in unexcavated areas, and the planned Industrial Land Use.

Alternative 3) In-Situ Soil Treatment with Hot Water Injection and Withdrawal, Exposure Barrier Placement, Localized Groundwater/Free Product Remediation, Groundwater Monitoring, and Land-Use Restrictions:

This alternative consists of the injection of hot water into the subsurface at the perimeter of the tar formation and the withdrawal of the groundwater at the center of the formation. Tar is mobilized by the hot water, flows to the centralized production wells along with the hot water, and is removed from the subsurface for treatment. The treated area therefore becomes hydraulically isolated. This technique has primarily been used to recover tar beneath the water table, so modifications would be required to also address vadose zone free product areas. Infiltration galleries would be added to percolate hot water from the ground surface downward. Vadose zone steam injection may also be required. Recovered fluids would be separated, with resultant wastewater injected in the deep injection wells and separated petroleum product stored on-site in a Frac Tank for disposal or recycling.

During or after remediation it may be recommended (or required) to install vapor barrier membranes across those areas of the site exceeding volatilization/inhalation criteria. The membranes may enhance the infiltration gallery performance and act to retain heat in the subsurface. This decision could be made during final design efforts or could be based on future land uses and building placements.

As shown on Figure 2, free product is generally present at three locations across the Northern Portion (including the PZ-4S/4D well). Remediation of the free product is required, and would consist of four dual phase recovery wells pumping at a combined rate of 30 gpm. Recovered liquids would be conveyed to a central oil-water separator, with the resulting wastewater injected into the two deep injection wells and the separated petroleum product stored in a Frac Tank for subsequent disposal or recycling.

Following soil remediation efforts a new monitoring well network would be installed in the Northern Portion of the site consisting of at least six nested locations, with each nest comprised of one 10-foot well and one 30-foot well. Well sample results (VOCs, SVOCs, and dissolved metals) would be used in part to determine the effectiveness of the soil remediation effort and to monitor the expected decrease in groundwater contaminant levels following source removals. Groundwater monitoring would also be required near the Rouge River as part of anticipated mixing zone agreements with the MDEQ.

Land Use Restrictions would be required due the presence of impacted groundwater, the uncertainties of residual soil contamination in untreated areas, and the planned Industrial Land Use.

Following completion of the on-site remedial activities a closure report would be prepared and submitted to the MDEQ.

The schedule provided in Attachment A identifies the activities that would need to be conducted on the Northern Portion of the site and presents the timing of the various tasks.

Southern Portion

Site Preparation and Characterization

As described in our 28 July 1998 letter, access restrictions should be placed on the property to best facilitate the management of site remediation activities. The initial project activity on the Southern Portion of the site should be to restrict access to all non-approved personnel and to initiate the removal of all commercial commodities (i.e., salt piles, gravel piles, slag piles, etc) from the site. WESTON also recommends that a meeting be held between the City and the MDEQ to discuss the proposed Remedial Strategy and to obtain their concurrence on the Strategy (especially regarding the desired mixing zone determinations).

It is likely that additional monitoring wells will be required by the MDEQ along the river as part of the mixing zone determination. For planning purposes WESTON assumes that three additional well nests will be installed, with one shallow well (10-foot) and one deep well (30-foot) comprising each nest. Well samples would be analyzed for VOCs, SVOCs, and dissolved metals.

A RAP for the site should be prepared and submitted to the MDEQ for approval. The RAP would include a summary of all investigative and characterization activities completed to date and would present a FFS for the impacted soil and groundwater. The RAP should describe the following limited characterization activities:

- The rationale for calculating an average lead concentration of all vadose zone soil samples collected from the fill on the entire site (exposure unit). Using the 95% upper confidence limit (UCL) calculated average, it is highly likely that the lead concentration of 1,700 parts per million (ppm) detected in sampling location SB-39 will be allowed to remain without requiring remediation activities.

- The rationale for disallowing the benzene concentration (9,000 micrograms per kilogram [ug/kg]) in sampling location SB-42 (8-10') that exceeds the IIA of 8,400 ug/kg. This sample concentration should be disallowed since the soil sample was collected from the saturated zone. A groundwater sample collected at the same location MW-104 did not indicate detectable levels of benzene.

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- The rationale for pursuing a mixing zone determination to eliminate the IGSIC exceedances in monitoring wells along the Detroit River. Initial calculations indicate that levels of contaminants detected on site in the monitoring wells near the river are less than 20X the IGSIC. However, mixing zone determinations are decided on a site-specific basis so initial discussions should be made before RAP preparation begins.

Site Remediation

Following approval of the RAP by the MDEQ, it is anticipated that the following remediation activities would be required:

Excavation and disposal of limited areas in the Southern Portion of the site including the following;

- Soil Boring Location SB-37 – limited excavation and disposal of observed surficial oil to a depth of visually clean.
- Soil Boring Location SB-30 – limited excavation and disposal of soil to groundwater depth. Verification sampling of soil for benzene analysis to determine if IIA has been met, and sampling of groundwater for benzene analysis to determine if IIA in groundwater has been exceeded.
- Soil Boring Location SB-202 – limited excavation and disposal of soil to groundwater depth. Verification sampling for PAH analysis to determine if IDC has been met.

Following completion of the on-site remedial activities a closure report would be prepared and submitted to the MDEQ.

The schedule provided in Attachment A identifies the activities that would need to be conducted on the Southern Portion of the site and presents the timing of the various tasks.

ADDITIONAL SITE PARTITIONING OPTIONS

Based on a review of the known site conditions, there are some localized areas of the Northern Portion that could more readily be granted Industrial Closures, similar to the Southern Portion. As shown on Figures 2 through 4, probable candidate areas are the 6.4 acre northeast corner encompassed by soil borings SB-67, SB-68, and the east fence line; and the 5.2 acre northwest corner encompassed by soil borings SB-50, SB-75, and Zug Island Road. These areas appear to lack free product in either the vadose or saturated zones, and do not contain contaminant levels significantly above MDEQ Generic Industrial Criteria. Institutional controls would be the primary remedial action as described for the Southern Portion.

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COST ESTIMATE

Assumptions and details on which these cost estimates are based are presented in Attachment B. The cost for each remedial alternative is summarized below:

NORTHERN PORTION

MDEQ Meetings	$5,000
Inventory and Characterization of On-site Waste Material	$53,500
Preparation of Specifications for Existing Waste Material Disposal	$11,400
Waste Material Disposal	$5,000,000
UST Closure	$33,450
Monitoring Wells-Install 12 Wells and Sample VOCs-SVOCs (20 Quarters)	$120,000
RAP Preparation	$16,400
Groundwater and Free Product Remediation – Years 1-5	$653,800
Closure Report Preparation	$6,400
Remedial Alternative 1 – Asphalt Mixing	$6,903,800
Remedial Alternative 2 – Thermal Treatment	$23,022,500
Remedial Alternative 3 – Hot Water Injection	$6,763,800

TOTAL RANGE ..... $12,663,750 – $28,922,450

SOUTHERN PORTION

MDEQ Meetings	$2,000
Monitoring Wells-Install 6 Wells and Sample VOCs, SVOCs, Metals (4 Quarters)	$26,060
RAP Preparation	$16,400
Soil Remediation	$4,050
Closure Report Preparation	$6,400

TOTAL $54,910

It is important to note that the site is still active under the under the RCRA Corrective Action Program and may still be subject to federal RCRA regulations even if the site is remediated under a state cleanup program. Discussions with the U.S. EPA Underground Injection Branch (UIB) along with additional research into this scenario is warranted prior to implementing any cleanup activities.

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Should you have any questions or require additional information regarding this project, please feel free to contact Sally Bartz or Jeff Binkley at (313) 567-4000.

Very truly yours,

ROY F. WESTON, INC.

Sally Bartz
Principal Project Manager

Jeffrey S. Binkley
Program Manager

Attachments

TABLE 1

SUMMARY OF ORGANIC DETECTIONS EXCEEDING MDEQ CRITERIA AT OR ABOVE WATER TABLE
1998 MALCOLM PIRNIE INVESTIGATION
FORMER DETROIT COKE SITE
DETROIT, MICHIGAN

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Sample ID:	SB-7	SB-10	SB-11	SB-11	SB-13	SB-14	SB-14	SB-16	SB-30	SB-49	SB-49	SB-53	SB-54	SB-60	SB-60	SB-61	SB-61	SB-82	SB-85	SB-202
Sample Depth (ft):	2-4	(0-1)	2-4	5-7	2-4	0-0.5	8-5	3-5	3-5	2-4	6-8	0-1	0-1	0-.5	2-4	2-4	8-10	0-1	2-4	2-4
Depth to Water	5.50	2.00	5.50	5.50	5.50	5.00	5.00	5.50	7.00	7.50	7.50	3.10	3.00	>9	>9	9.00	9.00	2.00	3.00	6.00
BTEX+MTBE (ug/kg)																				
Benzene		IIA,IAA						IIA	IIA	IIA	IIA			IIA	IIA	IIA	IIA,IAA	IIA	IIA	
Semi-Volatiles (ug/kg)																				
Benzo (a) Pyrene		IAA																		
Acenapthylene		IIA, IAA																		
Fluoranthrene	IAA	IIA, IAA	IAA	IAA	IAA	IAA	IAA					IAA	IAA					IAA		IAA

Notes:
IAA - Indicates sample contained a concentration which exceeds the MDEQ Industrial Ambient Air Criteria
IIA - Indicates sample contained a concentration which exceeds the MDEQ Industrial Soil Volatilization to Indoor Air Inhalation Criteria

TABLE 2

SUMMARY OF ORGANIC DETECTIONS EXCEEDING MDEQ CRITERIA BELOW WATER TABLE
1998 MALCOLM PIRNIE INVESTIGATION
FORMER DETROIT COKE SITE
DETROIT, MICHIGAN

DRAFT

Sample ID:	SB-7	SB-15	SB-16	SB-30	SB-42	SB-59	SB-62	SB-66	SB-71	SB-74	SB-80	SB-85	SB-86	SB-88	SB-88	SB-96	SB-99
Sample Depth (ft):	6-8	7-9	6-8	8-10	8-10	7-9	8-10	8-10	8-10	8-10	6-7	6-8	6-8	2-4	6-8	6-8	6-8
Depth to Water	5.50	5.20	5.50	7.00	7.30	6.00	6.00	1.00	2.80	3.40	3.50	3.00	4.00	1.50	1.50	6.00	3.00
BTEX+MTBE (ug/kg)																	
Benzene		IIA	IIA	IIA	IIA	IIA	IIA				IIA	IIA,IAA	IIA,IAA			IIA	IIA
Semi-Volatiles (ug/kg)																	
Benzo (a) Pyrene																	
Acenapthylene																	
Penandrene	IAA							IAA	IAA	IIA, IAA	IAA			IAA	IAA		

Notes:
IAA - Indicates sample contained a concentration which exceeds the MDEQ Industrial Ambient Air Inhalation Criteria
IIA - Indicates sample contained a concentration which exceeds the MDEQ Industrial Soil Volatilization to Indoor Air Inhalation Criteria

ATTACHMENT A

Cost Estimate
Groundwater and Free Product Remediation
Former Detroit Coke Site -Northern Portion
Detroit Michigan

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ITEM OF WORK	Quantity	Unit	Unit Price	Cost	Subtotal	COMMENTS
TREATABILITY STUDY	1	each	$25,000	$25,000		Assumes study will be required to determine cost for pumping capability
					$25,000	
DESIGN	1	each	$50,000	$50,000		Assumes cost to prepare all design specs based on treatability results
					$50,000	
SITE CONSTRUCTION COSTS:						
MOBILIZATION	1	Estimate	$5,000	$5,000		Oversight personnel and equipment
Subtotal					$5,000	
FREE PRODUCT/GROUNDWATER EXTRACTION						
Dual Phase Recovery Wells Installation	4	well	$7,500	$30,000		Assumes 3 area/wells will need free product extraction
Oil/Water Separator	1	est.	$50,000	$50,000		Assumes free product will be separated for storage on site.
On Site Free Product Storage Tanks	1	est.	$15,000	$15,000		Assumes 1 20,000 gallon steel tank for temporary free product storage.
Construction of Conveyance System	1	est.	$20,000	$20,000		
Free Product Disposal/Recycling	73,000	gal	$1	$73,000		Assumes 40 gallons per day of product recovered for 5 years.
Injection Well Monitoring	5	1 Year	$5,000	$25,000		
Extraction Well O&M	5	1 Year	$24,000	$120,000		Assumes free product will be recovered after 5 years.
Subtotal					$313,000	
SUPPORT COSTS						
ENGINEERING						
Project Engineer	1,040	Hour	$75	$78,000		Management of extraction system - 5 years.
Project Manager	480	Hour	$100	$48,000		Management of extraction system - 5 years.
Subtotal					$126,000	
CONTRACTOR PROCUREMENT(S)	1	Estimate	$4,000	$4,000		Acquiring appropriate contractors and O&M subcontractors
Subtotal					$4,000	
SUB-TOTAL: (Capital/Construction)					$523,000	
CONTINGENCY (25%)					$130,800	
TOTAL CAPITAL COST WITH CONTINGENCY					$653,800	

Cost Estimate
Excavation/On-Site Asphalt Mixing
Former Detroit Coke Site -Northern Portion
Detroit Michigan

DRAFT

ITEM OF WORK	COST ESTIMATES					COMMENTS
	Quantity	Unit	Unit Price	Cost	Subtotal	
SITE CONSTRUCTION COSTS:						
MOBILIZATION	1	Estimate	$5,000	$5,000		Mob. Of oversight personnel, excavation personnel and equipment
Subtotal					$5,000	
FILL SOIL REMOVAL & TREATMENT						
Treatability Study	1	Test	$3,500	$3,500		
Soil Excavation	224,500	CY	$4	$898,000		
Material Preparation/Staging	224,500	CY	$4	$898,000		
Mix w/ Asphalt Emulsion	224,500	CY	$5	$1,122,500		Assumes Pug Mill operating cost of $5,000/day
Backfill Materials	224,500	CY	$10	$2,245,000		
Backfilling/Grading	224,500	CY	$2	$449,000		
Placement of Vapor Barrier within Excavation	1,500,000	SF	$1	$1,500,000		Approx. 34 acres (1.5 million sq. feet) of free product area
Sale of Reusable Product	224,500	CY	($8)	($1,796,000)		
Subtotal					$5,320,000	
CONFIRMATION TESTING						
Floor Sample Analysis	10	Sample	$500	$5,000		Excavating shallow water table decreases sample volume.
Sidewall Sample Analysis	20	Sample	$500	$10,000		Assuming standard turnaround.
Subtotal					$15,000	
DESIGN COSTS						
ENGINEERING						
Project Engineer	360	Hour	$75	$27,000		
Project Manager	160	Hour	$100	$16,000		Assistance with resale arrangements also.
Subtotal					$43,000	
CONTRACTOR PROCUREMENT(S)	1	Estimate	$5,000	$5,000		Acquiring appropriate excavation and other site subcontractors
Subtotal					$5,000	
CONSTRUCTION MANAGEMENT						Assuming 45 weeks of excavation activities.
Engineering/Oversight	2250	Hour	$60	$135,000		Excavation and mixing activities direction and oversight
Subtotal					$135,000	
SUB-TOTAL: (Capital/Construction)					$5,523,000	
CONTINGENCY (25%)					$1,380,800	
TOTAL CAPITAL COST WITH CONTINGENCY					$6,903,800	

Cost Estimate
Selective Excavation/On-site Thermal Treatment
Former Detroit Coke Site -Northern Portion
Detroit Michigan

DRAFT

ITEM OF WORK	Quantity	Unit	Unit Price	Cost	Subtotal	COMMENTS
SITE CONSTRUCTION COSTS:						
MOBILIZATION	1	Estimate	$5,000	$5,000		Overnight personnel, excavation personnel and equipment.
Subtotal					$5,000	All Thermal Mob/Setup fees included in CY unit rates.
FILL SOIL REMOVAL						
Soil Excavation	224,500	CY	$4	$898,000		Excavation of vadose zone free product and lithalion exceedances
Waste Characterization Analysis	4	Test	$500	$2,000		For Thermal Treatment design and MDEQ approval.
Soil Thermal Treatment and Replacement	292,000	CY	$50	$14,600,000		Bulking of 30%.
Backfill Materials	224,500	CY	$10	$2,245,000		
Backfilling/Grading	224,500	CY	$2	$449,000		
Subtotal					$18,194,000	
CONFIRMATION TESTING						
Floor Sample Analysis	10	Sample	$500	$5,000		Encountering shallow water table decreases sample volume.
Sidewall Sample Analysis	20	Sample	$500	$10,000		Assuming standard turnaround.
Subtotal					$15,000	
SUPPORT COSTS						
ENGINEERING						
Project Engineer	360	Hour	$75	$27,000		
Project Manager	160	Hour	$100	$16,000		
Subtotal					$43,000	
CONTRACTOR PROCUREMENT(S)	1	Estimate	$5,000	$5,000		Acquiring construction and treatment subcontractors
Subtotal					$5,000	
CONSTRUCTION MANAGEMENT						Assuming 52 weeks of excavation and treatment activities.
Engineering/Oversight	2600	Hour	$60	$156,000		Excavation and disposal activities direction and oversight
Subtotal					$156,000	
SUB-TOTAL: (Capital/Construction)					$18,418,000	
CONTINGENCY (25%)					$4,604,500	
TOTAL CAPITAL COST WITH CONTINGENCY					$23,022,500	

Cost Estimate
Free Product Recovery Using Hot Water Injection
Former Detroit Coke Site -Northern Portion
Detroit Michigan

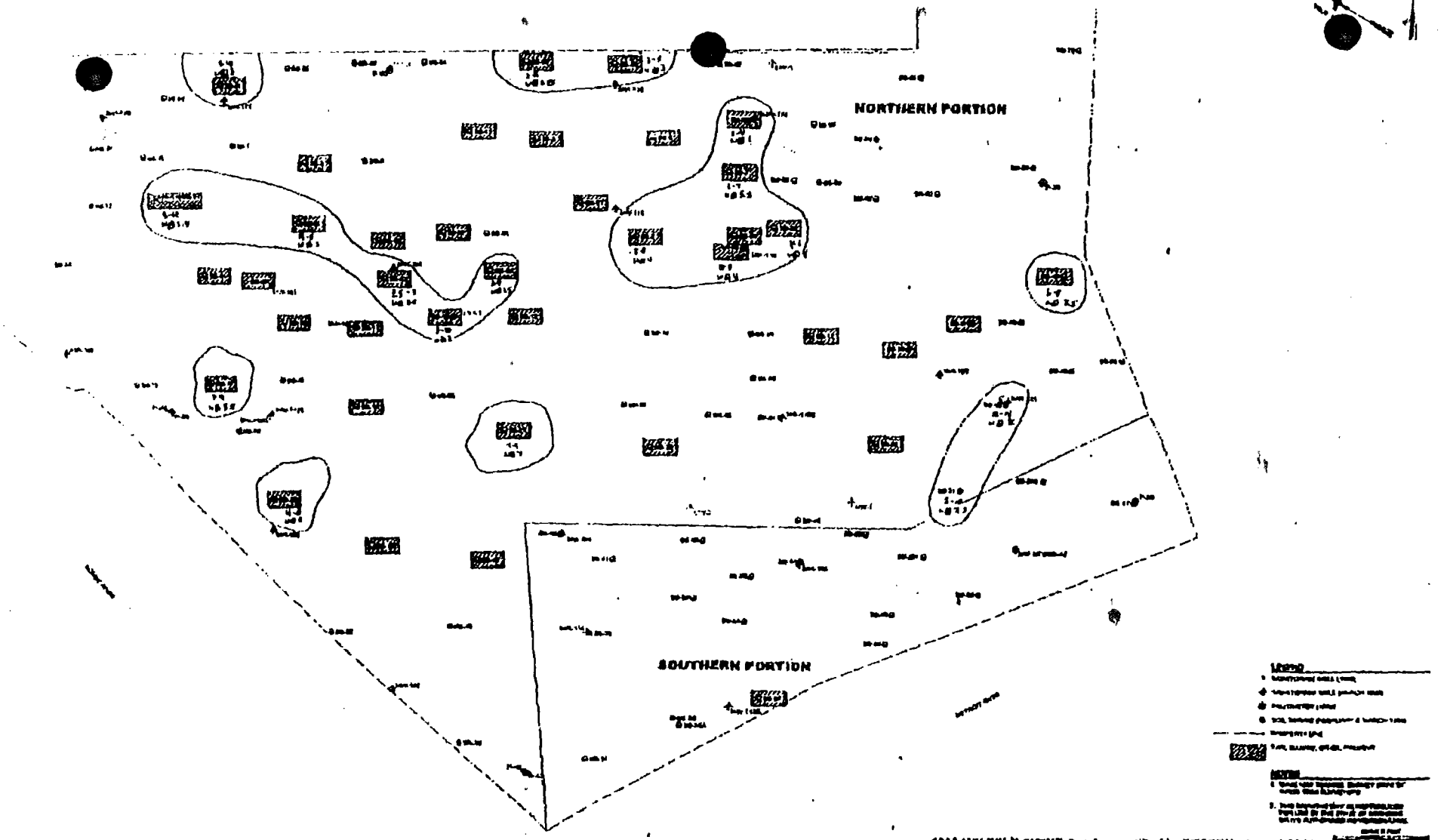
DRAFT

ITEM OF WORK	COST ESTIMATES					COMMENTS
	Quantity	Unit	Unit Price	Cost	Subtotal	
TREATABILITY STUDY	1	each	$100,000	$100,000		Assumes study will be required to demonstrate feasibility at site
					$100,000	
DESIGN	1	each	$150,000	$150,000		Assumes cost to prepare all design specs based on treatability results
					$150,000	
SITE CONSTRUCTION COSTS:						
MOBILIZATION	1	Estimate	$20,000	$20,000		Personnel and equipment
Subtotal					$20,000	
SYSTEM CONSTRUCTION						
Recovery Wells Installation	18	well	$10,000	$180,000		Assumes 24-inch recovery wells every 1000 feet across impacted area
Hot Water Infiltration Gallery Injection Wells Installation	63	well	$1,000	$63,000		Assumes 2-inch injection wells every 220 feet around impacted area
Hot Water Heater and Recovery System	1	est.	$750,000	$750,000		Assumes free product will be separated for storage on site.
Infiltration Gallery System Installation	1	est.	$250,000	$250,000		Perforated piping network and conveyance system
Vapor Barrier Installation	1,300,000	SF	$1	$1,300,000		Approx. 34 acres are covered
Free Product Storage	2	est.	$15,000	$30,000		Assumes two 20,000 gallon steel storage tanks.
Free Product Disposal/Recycling	300,000	gal	$1	$300,000		Assumes 5,000 gallons per month.
Deep Injection Well Monitoring	5	1 Year	$5,000	$25,000		
Full System O&M	5	1 Year	$365,000	$1,825,000		Assumes free product will be recovered after 5 years.
Subtotal					$4,923,000	
SUPPORT COSTS						
ENGINEERING						
Project Engineer	1,000	Hour	$75	$75,000		Management of extraction system for 5 years
Project Manager	250	Hour	$100	$25,000		Management of extraction system for 5 years
Subtotal					$100,000	
CONSTRUCTION OVERSIGHT	1,800	Hour	$60	$108,000		Assumes 180 days for construction
					$108,000	
CONTRACTOR PROCUREMENT(S)	1	Estimate	$10,000	$10,000		Acquiring appropriate construction and O&M subcontractors
Subtotal					$10,000	
SUB-TOTAL: (Capital/Construction)					$5,411,000	
CONTINGENCY (25%)					$1,352,800	
TOTAL CAPITAL COST WITH CONTINGENCY					$6,763,800	

1998 MALCOLM PIRNIE drawing modified by WESTON - August 1998

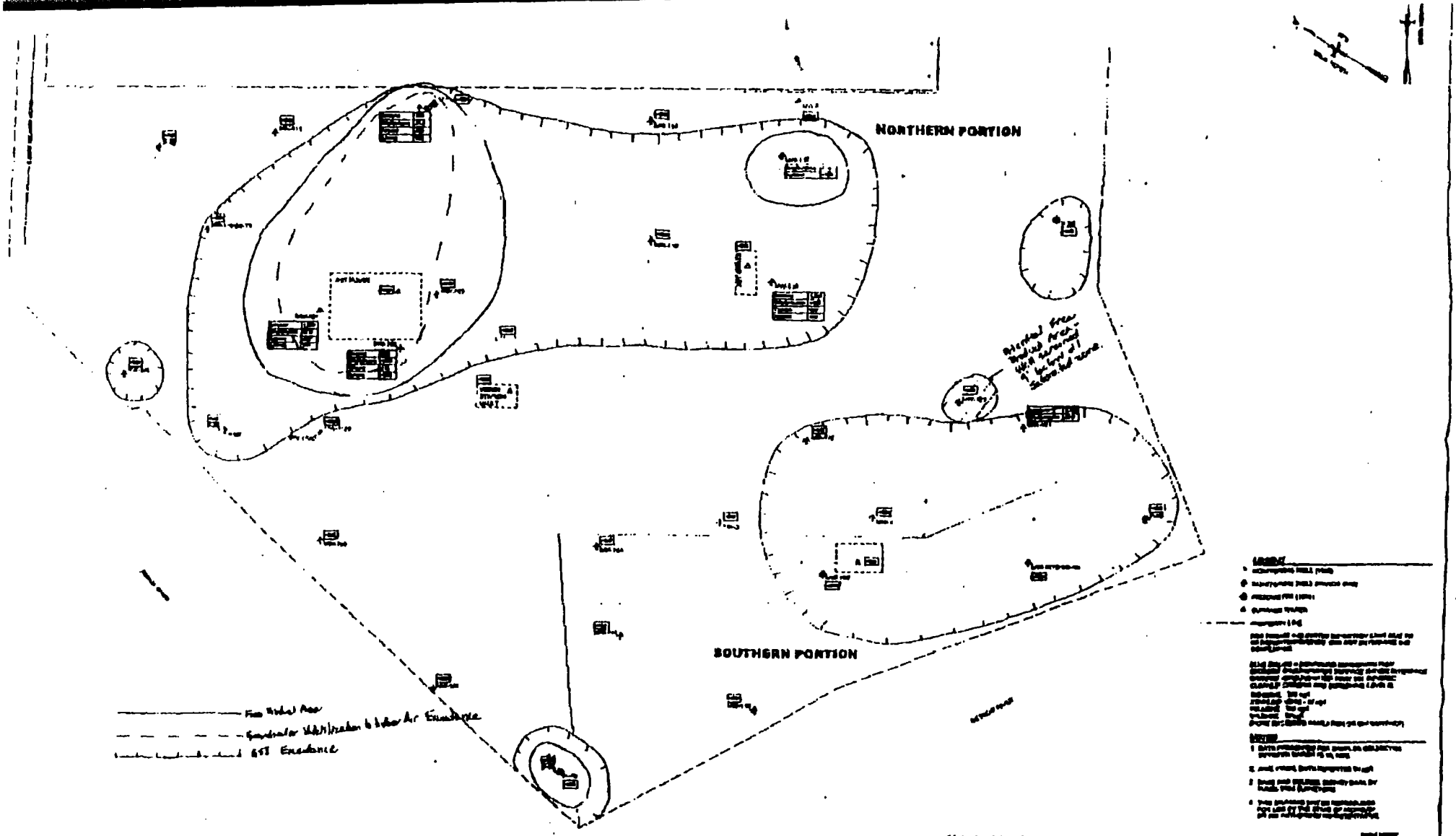
FORMER DETROIT COKE SITE
DETROIT, MICHIGAN
AREA OF IMPACTED VADOSE ZONE SOIL

FIGURE 2



FORMER DETROIT COKE SITE
DETROIT, MICHIGAN
AREA OF FREE PRODUCT IN SATURATED ZONE SOIL

FIGURE 3

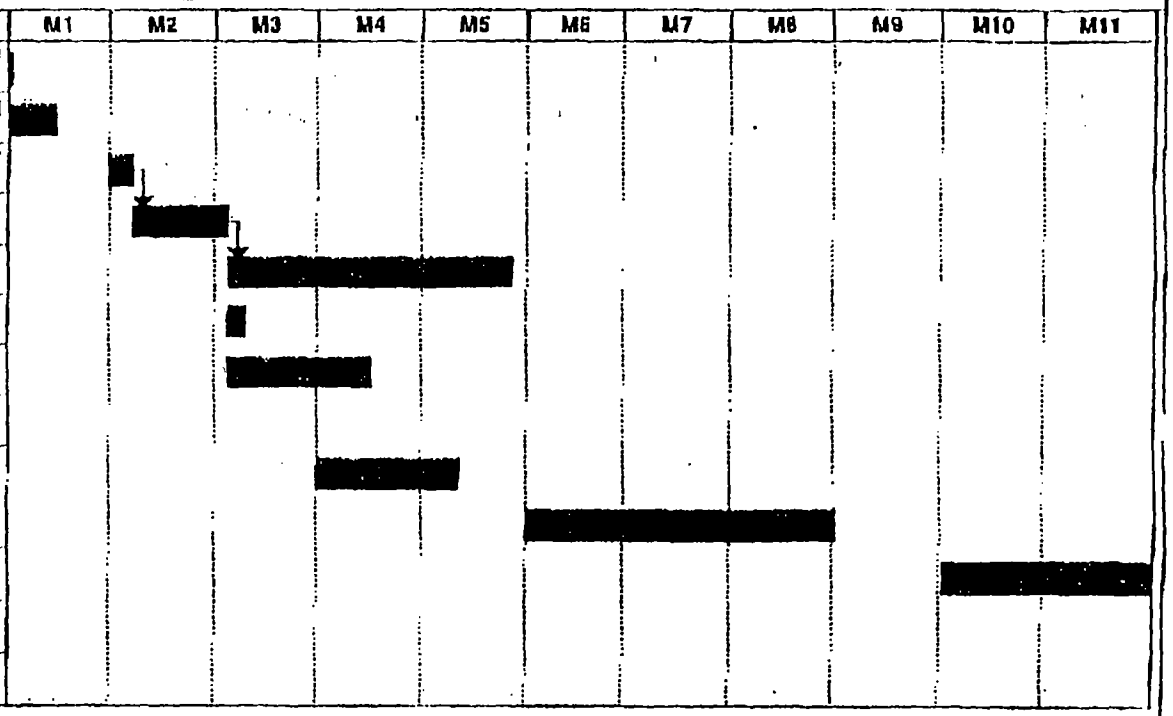


FORMER DETROIT COKE SITE
DETROIT, MICHIGAN
AREA OF GROUNDWATER INHALATION EXCEEDENCES

FIGURE 4

Union Steel Project Schedule
Northern Portion
Selective Soil Excavation with Thermal Treatment

ID	Task Name	Duration
1	MDEQ Meeting	1d
2	Project Planning	10d
3	Inventory and Characterization of On-site Waste Material	5d
4	Preparation of Specifications for Waste Material Disposal	20d
5	Waste Material Disposal	60d
6	UST Closure	3d
7	Treatability Study	30d
8	Monitoring Wells - Install and Sample	1244d
29	RAP Preparation	30d
30	Thermal Treatment System Construction	66d
31	Soil Remediation	219d
32	Groundwater Remediation	1307d
33	Closure Report Preparation	20d

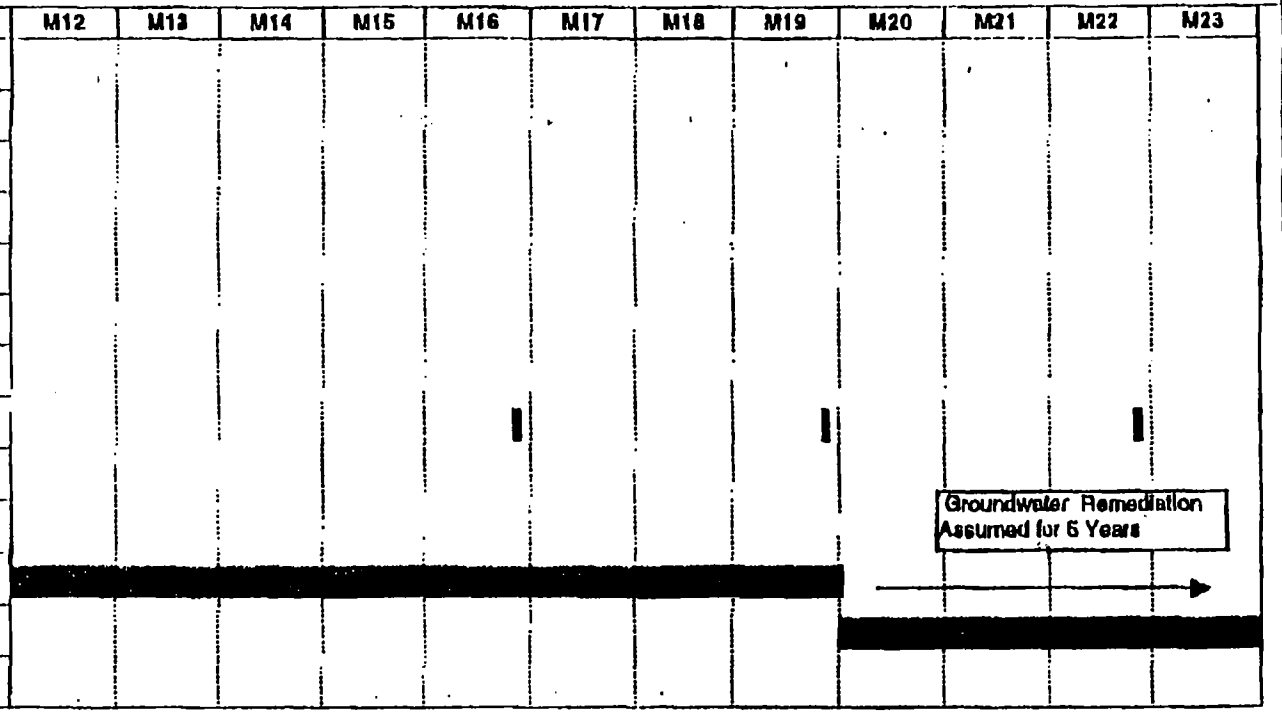


Project: noralt1
Date: Wed 8/5/98

Task
Progress
Milestone
Summary
Rolled Up Task
Rolled Up Milestone
Rolled Up Progress

Detroit Coke Project Schedule
Northern Portion
Selective Soil Excavation with Thermal Treatment

ID	Task Name
1	MDEQ Meeting
2	Project Planning
3	Inventory and Characterization of On-site Waste Material
4	Preparation of Specifications for Waste Material Disposal
5	Waste Material Disposal
6	UST Closure
7	Treatability Study
8	Monitoring Wells - Install and Sample
29	RAP Preparation
30	Thermal Treatment System Construction
31	Soil Remediation
32	Groundwater Remediation
33	Closure Report Preparation

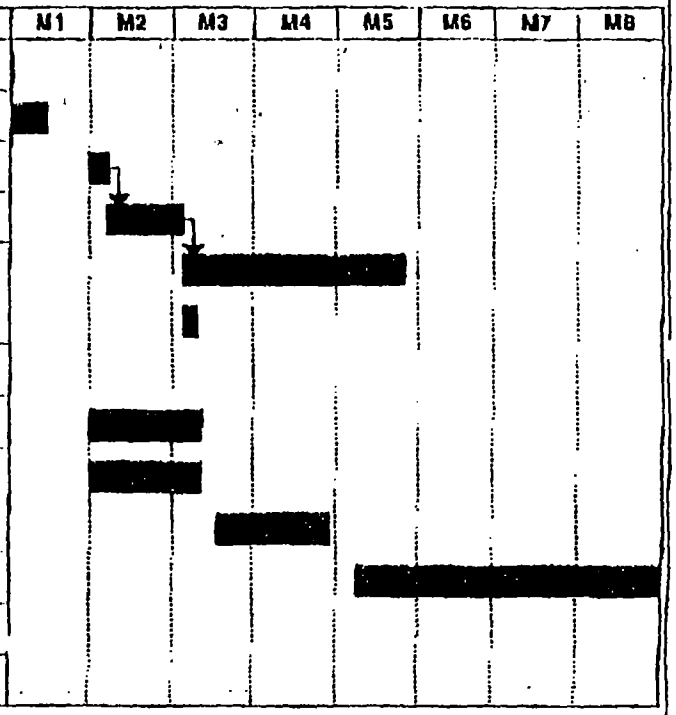


Project: noralt1
Date: Wed 8/5/98

Task
Progress
Milestone
Summary
Rolled Up Task
Rolled Up Milestone
Rolled Up Progress

Detroit Coke Project Schedule
Northern Portion
Selective Soil Excavation with Asphalt Mixing

ID	Task Name	Duration	Start	Finish	Predecessors
1	MDEQ Meeting	1d	Tue 9/1/98	Tue 9/1/98	
2	Project Planning	10d	Tue 9/1/98	Mon 9/14/98	
3	Inventory and Characterization of On-site Waste Material	5d	Thu 10/1/98	Wed 10/7/98	
4	Preparation of Specifications for Waste Material Disposal	20d	Thu 10/8/98	Wed 11/4/98	3
5	Waste Material Disposal	60d	Thu 11/5/98	Tue 1/26/99	4
6	UST Closure	3d	Thu 11/5/98	Mon 11/9/98	
7	Monitoring Wells - Install and Sample	1242d	Mon 9/27/99	Tue 6/29/04	
28	RAP Preparation	30d	Thu 10/1/98	Wed 11/11/98	
29	Treatability Study	30d	Thu 10/1/98	Wed 11/11/98	
30	Pug Mill Construction	30d	Wed 11/18/98	Tue 12/29/98	
31	Soil Remediation	152d	Sat 1/9/99	Mon 8/9/99	
32	Groundwater Remediation	1306d	Mon 8/9/99	Mon 8/9/04	
33	Closure Report Preparation	20d	Mon 8/9/04	Fri 9/3/04	



Project: norall2
Date: Wed 8/5/98

Task
Progress
Milestone
Summary
Rolled Up Task
Rolled Up Milestone
Rolled Up Progress

Detroit Coke Project Schedule
Northern Portion
In-Situ Hot Water Soil Treatment

ID	Task Name	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24
1	MDEQ Meeting												
2	Project Planning												
3	Inventory and Characterization of On-site Waste Material												
4	Preparation of Specifications for Waste Material Disposal												
5	Waste Material Disposal												
6	UST Closure												
7	Treatability/Pilot Study												
8	Monitoring Wells - Install and Sample												
31	RAP Preparation												
32	Final Design												
33	System Construction												
34	Soil Remediation												
35	Groundwater Remediation												
36	Closure Report Preparation												

Groundwater and Soil Remediation Assumed for 5 Years

Project: norak3
Date: Wed 8/5/98

Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress

MAY 11, 1998 - DETROIT COKE MEETING SUMMARY

Participants: MDEQ-ERD MDEQ-WMD U.S. EPA City of Detroit Allied Signal Corp.

BACKGROUND: For background information on this site, see previous briefing paper dated 4/24/98.

MAJOR MDEQ-ERD POINTS:

- Preliminary results of MDEQ-ERD site investigation (Copy of preliminary data was given to EPA):
  - soils (PAHs, metals and free-phase coil tar/oil) and groundwater (benzene, ethyl benzene, coal tar/oil) are heavily impacted with the most serious contamination being to the north and northwest. PCBs were detected at one location at less than 1 ppm.
  - Previous sampling of Rouge River sediments adjacent to the site showed heavy PAH and free-phase oil.
- ERD stated that there is still a lot of work to be done on-site to fill in the gaps in the site analysis.
- Substantial corrective action will be required for the site however, corrective action activities should not preclude or postpone development of the riverfront portion of the property.
- Ownership of the property is still in question. The State plans to serve notice of right of redemption within a week
- ERD wants to take control of the site clean-up from EPA. MDEQ-WMD has deferred the site to ERD.
- ERD proposed performing an expedited clean-up of the riverfront portion of the property, followed by Allied Signal remediating the rest of the site under EPA or MDEQ-ERD oversight.
- Allied was asked if they were willing to allow the property to revert to the state in exchange for entering into a consent agreement that clearly limits Allied's corrective action responsibilities and provides relaxed clean-up standards. Allied stated that they would consider the proposal if it is offered.

MAJOR EPA POINTS:

- EPA expressed a preference for addressing corrective action under a single regulatory agency at the facility.
- EPA suggested entering into an MOU with the state as a means of transferring corrective action authority.
- EPA stated that until ownership issues are resolved, the re-permitting of the UIC wells is suspended. Until that time, the current permits are still in effect with Detroit Coke as the permittee.

MAJOR CITY OF DETROIT POINTS:

- The City's interest is in approximately 30 acres along the Detroit River and not in the entire 66 acre site.
- The City mentioned possibly obtaining permits for the deep wells and operating them as part of the remediation.
- The City and potential users of the 30 acres at the Detroit Coke Site (cement silo owners) have not entered into any agreement and the relocation of the cement silos is still in the preliminary stages (geotechnical work still needs to be done). There is an approximate deadline of five months to make an offer to the cement silo companies.
- The City said that they need to compare two different title searches prior to issuing the right of redemption to Allied.
- The City claimed the Detroit Coke Corporation may have recently reincorporated under a different purpose (i.e. for remediation and cleanup of the Detroit Coke site) to avoid environmental liability.

MAJOR ALLIED SIGNAL POINTS:

- Allied's "current intent" is to redeem the property and foreclose on Detroit Coke in order to perform the RCRA cleanup themselves thus limiting their liability under a Superfund cleanup. Afterward, Allied would sell the property.
- Allied also is considering redeeming the property, but not foreclosing on Detroit Coke in order to protect themselves from liability under RCRA; Detroit Coke would be the statutory owner of the property and therefore the liable party.
- Allied has expressed their intent to obtain permits for the UIC wells for use in remediation.

ISSUES (in order of concern from highest to lowest)

1. EPA is not confident that MDEQ-ERD will perform a clean-up that is protective of the environment due to pressure from the City for a quick clean-up. **Recommendation:** MOU between EPA and ERD should outline the relevant pathways to be addressed and provide EPA the opportunity to review and comment on any workplans or reports.
2. MDEQ, the City, or Allied do not have clear title to the site. All entities may be interested in receiving permits for the deep wells. **Recommendation:** UIC Permit decision will wait until property ownership issues are resolved.
3. Sediment remediation may be required for the Rouge and Detroit Rivers. **Recommendation:** EPA should ensure that this is addressed in the MOU, or during review of workplans.
4. The Site is in an EJ community, SEMI area, Delray initiative, Renaissance Zone, Detroit and Rouge River RAPs, Great Lakes Water Quality Agreement, and the Lake Erie Watershed. The citizens are unhappy about placing cement silos at the site and that a potentially inadequate clean-up may be performed by the State. **Recommendation:** Ensure the public is involved in the decision-making process.
5. Ultimately, the cement silos may not be sited at Detroit Coke. **Recommendation:** The MOU should include some minimum timeframes for addressing the site in the event that the site ceases to be a high priority for the State.

CONTACTS: Allen Melcer (UIC) 6-1498 Greg Rudloff (RCRA) 6-0455

-which program + mechanisms ?
  -Timeframe ?

-MOU ?
  - EPA 1st draft.

-Public participation ?

-Meeting w/ Millberg + Allied

-final Malcolm Picnic Report ?

-Notice ?

202 260-7280
access code (1225 #)

9:00 MOU Mtg.

June 9, 1998 - DETROIT COKE CONFERENCE CALL SUMMARY

Participants: MDEQ-ERD MDEQ-WMD U.S. EPA

BACKGROUND: For background information on this site, see previous briefing paper dated 4/24/98 and 5/11/98.

MAJOR MDEQ-ERD POINTS:

- Malcolm Pirnie submitted a final site investigation report to USEPA which is currently being reviewed.
- Ownership of the property is still in question
  - The State has served notice of right of redemption to all interested parties. The right of redemption expires on June 26, 1998. If no one redeems the property, the State obtains title of the property through operation of law. If the property is redeemed, Detroit Coke regains title.
  - MDEQ also wants to notice the four leaseholders on-site of any potential property transfer.
- ERD expressed an interest in taking control of the clean-up of the site from EPA. Under MDEQ's proposal, which would only exist if the property reverts back to the state by operation of law on June 26, 1998, MDEQ would:
  - Parcel off the southern 1/3 portion of the property and convey the portion through a municipal conveyance statute to the City of Detroit
  - Remediate the southern 1/3 portion of the property on an expedited basis, using Michigan's Part 201 Statute.
  - Order the Site PRPs, Detroit Coke and Allied Signal, to remediate the rest of the Site.
  - If the PRPs are unable or unwilling to perform the clean-up of the remaining property, MDEQ would remediate the rest of the Site using Michigan's Part 201 Statute.
  - DEQ may want to use the wells for groundwater remediation, which would require the State or PRP to obtain a permit.
- Even if Allied or Detroit Coke take possession of the property, the State would like to obtain lead for the clean-up. The State would like to follow the approach listed above for the clean-up, but the regulatory mechanism is unclear.
- MDEQ would like a formal mechanism or recognition by which the USEPA would transfer the clean-up authority from a RCRA corrective action to a CERCLA non-time critical removal. MDEQ would like some written assurance that USEPA would consider this site a CERCLA site, not a RCRA site, because:
  - Under RCRA, the State of Michigan may be considered a liable party as owner of the property.
  - This site is being recognized and addressed as a Brownfield. There is already an end user interested in buying or leasing the property. Under a RCRA corrective action, USEPA could not enter into a PPA with the end user. However, under a CERCLA non-time critical removal action, USEPA could enter into a PPA with the end user.
  - Cost recovery for MDEQ would be certain under CERCLA authority, but less likely under RCRA authority.
- The City of Detroit has not yet performed the geo-technical work necessary to determine whether the site could support the proposed cement silo project. However, the City is further along in acquiring the contractor to perform the work.
- The City and potential users of the 30 acres at the Detroit Coke Site (cement silo owners) still have not entered into any agreement and the relocation of the cement silos is still in the preliminary stages.

MAJOR EPA POINTS:

- EPA drafted an MOU which was largely acceptable to the State. Issues remain regarding the regulatory mechanism the State will use in addressing the site.
- Current USEPA policy demonstrates that transfer of clean-up authority at the Federal level, from RCRA to CERCLA, is possible.
  - Current USEPA policy states that where a facility is subject to both CERCLA and RCRA, the facility should be managed under RCRA, unless the owner is unable or unwilling to take corrective action. See EPA, RCRA/NPL Listing Policy, 51 FR 21054, 21057-59 (1986).
  - Therefore, changing the statutory authority from RCRA to CERCLA at the Detroit Coke site seems to be a factual determination based on the owner's status.
  - In this case, the current owner owes $1.5 million for back taxes to the state and local government. The owner's right of redemption expires on June 26, 1998. If the owner fails to redeem the property, the property will revert to the State of Michigan. The owner's inability to pay the financial debts for the site factually demonstrates the owner's inability to take corrective action measures at the site. Therefore, the site should be transferred from RCRA to CERCLA authority. The State would then take the lead from CERCLA through its voluntary clean-up program.
  - EPA re-emphasized the need of entering into an MOU with the state as a means of transferring corrective action authority and clarifying joint agency actions (e.x. public participation requirements and UIC well permitting issues).
- USEPA is also exploring how to deal with the UIC wells on-site
  - If the State takes title to the Site,
    - the wells could be permitted to the State
    - the state could order the PRPs to obtain a permit as part of an order
    - If DEQ uses the wells, which are RCRA units, it is unclear whether DEQ can address the site under its state Superfund program.

FUTURE ACTIONS:

EPA and MDEQ-ERD agreed to wait until after the Right of Redemption period of June 26, 1998, lapses before discussing the ways to address the site and finalizing the MOU.

ISSUES (in order of concern from highest to lowest)

1. EPA is not confident that MDEQ-ERD will perform a clean-up that is protective of the environment. Pressure from the City for a quick clean-up may sway MDEQ-ERD to not consider all relevant pathways. **Recommendation:** EPA should finalize the MOU, which provides for limited EPA oversight, with the State.
2. Should we change the statutory authority used to address this site from RCRA to CERCLA? **Recommendation:** EPA should proceed with transfer of site from RCRA to CERCLA if the State takes possession of the site.
3. Can we include written assurance to MDEQ that the site is addressed under CERCLA and not RCRA as part of the Memorandum of Understanding? **Recommendation:** If State agrees to terms in MOU regarding EPA involvement, then we should give the assurance.
4. If the State takes ownership, can UIC issue permits to the State to operate the wells without invoking RCRA? **Recommendation:** If possible, UIC should find a way to authorize use of the wells without permitting. DEQ and EPA staff have to research this issue further.
5. Ownership of the property is unclear. MDEQ, the City, or Allied do not have clear title to the site. All entities have indicated that they may be interested in receiving permits for the deep wells. **Recommendation:** Decisions regarding transfer of authority and UIC permitting will have to wait until property ownership issues are resolved.

CONTACTS: Allen Melcer (UIC) 6-1498 Greg Rudloff (RCRA) 6-0455 Steve Murawski (ORC) 6-6741

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

FEB 23 1996

WU-17J

Mr. Paul K. Choinski
Facility Manager
Detroit Coke Corporation
P.O. Box 09229
Detroit, Michigan 48209

Re: United States Environmental Protection Agency (USEPA) Brownfields Initiative

Dear Mr. Choinski:

The purpose of this letter is to introduce you to the USEPA and State of Michigan joint Brownfields initiative. As I hope you are aware, the USEPA does not act as a strictly regulatory agency. In fact, the USEPA conducts research, publishes advances in environmental protection, issues advisories and guidances, and works with states, communities and the private sector on initiatives to develop holistic solutions to environmental problems. One USEPA program which may benefit your facility is the Brownfields initiative.

Brownfields are defined as "abandoned, idled or under-used industrial and commercial sites where expansion or redevelopment is complicated by real or perceived environmental contamination that can add cost, time or uncertainty to a redevelopment project." Although your site is obviously not abandoned, it is idled and could conceivably fit under the brownfields definition.

The Brownfields initiative in Detroit is a joint project between the USEPA, Michigan Department of Environmental Quality (MDEQ), and the City of Detroit. The determination of whether your facility qualifies as a brownfield site would be made by the City of Detroit.

The designation of a site as a brownfield carries the benefit of community and governmental bodies actively working to find a developer for the site. Other potential benefits, currently under discussion, may include limiting liability for potential developers after suitable clean-up has occurred and the issuance of a letter to the developer stating that the authorized regulatory agency has "no further interest" in your site. Finally, clean-up target levels are set based on future use of the site. If the future use has been determined prior to

implementing corrective measures, the clean-up levels can be adjusted accordingly.

Thus it appears that several stakeholders will benefit from involving your site in the Brownfields Initiative. The local community and the City of Detroit benefit by having the property cleaned up and remaining on the tax rolls, the USEPA and MDEQ benefit by achieving a rapid, environmentally safe site clean-up, and Detroit Coke benefits by making the site more attractive to potential developers through limiting future liability. Detroit Coke may also save considerable financial resources through accelerated clean-up and adjusted clean-up standards depending on the future site use.

I have taken the liberty of contacting Ross Powers and Debbie Fisher of the City of Detroit's Planning and Development Department regarding your site. They are very interested in the site and feel that it may qualify for the Brownfields program. If you are interested in finding out more about the Brownfields initiative, I suggest that you contact either of them at (313) 224-6380.

I am enclosing fact sheets and other literature regarding Brownfields for your information. If you have any questions, please feel free to contact either Greg Rudloff at (312) 886-0455 or myself at (312) 886-1498.

Sincerely yours,

Allen Melcer, Geologist
Underground Injection Control Branch

Enclosures

cc (w/o attachments):
Debbie Fisher, City of Detroit
Ross Powers, City of Detroit
Mary Beth Tuohy, USEPA Region 5 Brownfields Team Manager
Mary Vanderlaan, MDEQ, Livonia Office
Steve Buda, MDEQ, Jackson Office

bcc (w/o attachments):
Greg Rudloff, RCRA, HRPM-8J
Robert Tolpa, Common Sense Initiative Team Manager
Laura Lodisio, SEMI Team Manager
Quintin White, ARTS Branch, WS-16J
William Spaulding, SDWB, WD-15J
Gerald Phillips, Office of UST, HRU-8J
Lisa Perenchio/Rebecca Harvey, UIC Branch, WU-17J
Nicole Cantello, ORC, CS-29A

WU-17J:A.Melcer:a.m.:2/22/96:F/dcoke"letter"

2/22

XC Jim S
Ken B
Frank R
Pete Q
w/Attach
JM 4/1

From: JoAnn Merrick
To: Andrew Hogarth, Caroline Olmsted, I:manningp@ag.state.mi.us
CC: Frank Ruswick, I:reichelb@ag.state.mi.us, Jim Sygo, Kenneth Burda, Peter Quackenbush
Date: Thursday, April 01, 1999 9:31 AM
Subject: WMD Comments on the EPA/DEQ MOU

Following are the Waste Management Division's comments concerning the draft U.S. EPA MDEQ Memorandum of Understanding (MOU) for the Detroit Coke site.

1. Paragraph 6. Emergency Response Division should be Environmental Response Division.

2. Paragraph 14. We don't understand the purpose of this provision. How do the itemized plans/projects relate to the Part 201 process and cleanup standards for site remediation?

3. Paragraph 15. "appropriate contamination pathways" would be better stated as appropriate exposure pathways.

Paragraph 15 starts out " Until RCRA CA authority is transferred from the USEPA to the MDEQ..." this is unacceptable phraseology - the USEPA is NOT transferring AUTHORITY to MDEQ - we have our own state authority - independent of federal authority, PLUS we are authorized by EPA for CA. It should read that the EPA is transferring the lead for conducting CA at this site from EPA to the MDEQ. This change also needs to be made in paragraphs 20, 21, and 30.

Paragraph 15 also includes EPA in the decision making on the RAP, which is duplicative agency time and over site, as Ken pointed out. It will also only delay the implementation of response activities. The last sentence should read that EPA will take an advisory role right from the execution date of the MOU.

Paragraph 15 also includes the term Remedial Action Plan (RAP). As we discussed at the meeting, all references to a RAP should be changed to language acceptable to ERD.

4. Paragraph 18 - The second sentence of this paragraph should be deleted as there is no lapse of authority for CA at this site, since the state has authority to require CA right now, independent of EPA. We have received a copy of a letter from EPA to another site we are dealing with on CA, in which EPA states that the state is the lead and there is no reason for them to be involved (DSC - old McLouth sites). A copy of that letter will be faxed to Carrie Olmsted and Peter Manning. Attached

5. Paragraph 21 - the last sentence seems to conflict with paragraph 8. Paragraph 8 indicates that once MDEQ has issued an appropriate mechanism for requiring cleanup that the Corrective Action requirements will be removed from the UIC permits. Paragraph 21 adds the condition that a RAP must be approved by both MDEQ and EPA before transferring the authority to the MDEQ.

Paragraph 21 should state that the CA lead transfers from EPA to the MDEQ upon entry of the MOU, not after entry of an Order AND approval of a RAP. That way we have clearance to negotiate an order and appropriate response actions, or initiate enforcement action. If we are not clearly the lead from entry of the MOU, why would we invest the resources necessary to pursue potential litigation, when EPA could overfile at any time?

6. Section VII seems to conflict with paragraph 8. Paragraph 8 confers authority to the MDEQ for conducting the necessary reviews, etc. for cleanup of the site, but paragraph 21 and Section VII still requires joint MDEQ/EPA reviews of all documents submitted to the MDEQ. We don't see the purpose of this joint review. Since we are going to use the 201 cleanup process and standards and ERD understands them better than anyone else, why do we need another agency second guessing our judgement and probably causing excessive slow down in moving this cleanup along.

7. Paragraph 24 - what MDEQ is expected to copy to EPA needs to be defined - does it include AQD, SWQD, also?

8. Paragraph 25 - the last sentence is unacceptable - it states that if EPA does not comment/respond within their allotted 30 days, it does NOT imply that they concur. So we read that to mean that we could proceed with response action approval, and EPA could come back after the fact and raise new issues. This is especially troubling since EPA gave themselves RAP approval authority in paragraph 21. By reading the two together, it in effect ties our hands from moving ahead with anything until EPA has responded – the 30 day time frame is meaningless.

9. Paragraph 38. It would be appropriate to change the language "does not plan or anticipate" to "will not" to provide the MDEQ more certainty when negotiating the enforcement mechanism and RAP with the owners of the site.

10. Paragraph 38.3 should be changed from MDEQ-EPA approved RAP to just MDEQ approved response actions (or whatever terminology is preferred by ERD).

11. Paragraph 44 b. This is unacceptable language as written.

If you have any questions, please contact me (I will be on vacation until 4/12/99) or Ken Burda, or Pete Quackenbush. Thanks

JoAnn Merrick, Chief
Enforcement Section
Waste Management Division
517-373-7938
fax-517-373-4797
e-mail - merrickj@state.mi.us

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

MAR 29 1999

REPLY TO THE ATTENTION OF:

D-8J

David P. Flynn, Esquire
Phillips, Lytle, Hitchcock, Blaine & Huber LLP
3400 Marine Midland Center
Buffalo, New York 14203

Re: DSC Limited

Dear Mr. Flynn:

This is in response to your letter of February 5, 1999, on behalf of DSC Limited (DSC), which concerns DSC's plans to address environmental issues at the former McClouth Steel sites in Trenton and Gibraltar, Michigan. This reply is based upon the facts presently known to the United States Environmental Protection Agency (U.S. EPA) and is provided solely for informational purposes. For the reasons stated below, U. S. EPA does not presently contemplate requiring additional corrective action at these properties pursuant to Section 3008(h) of the Resource Conservation and Recovery Act (RCRA). As to DSC management of items containing polychorinated biphenyls (PCBs) and compliance with requirements of the Toxic Substances Control Act (TSCA), U.S. EPA is willing to negotiate an enforceable settlement of those issues.

The federal RCRA Subtitle C Program was established to, among other things, set standards for and regulate the generation, treatment, storage and disposal of hazardous wastes as well as provide for the cleanup of hazardous waste treatment, storage and disposal facilities. This program is delegated to authorized States, including the State of Michigan. Unless exempt by law, facilities that treat, store or dispose of hazardous wastes are subject to the requirements of RCRA. These requirements include applying for and obtaining operating permits, implementing closure and post-closure of regulated units, and performing corrective action to address releases of hazardous waste.

U.S. EPA supports State programs to address contaminated facilities, and supports the action which the Michigan Department of Environmental Quality (MDEQ) has taken to address environmental conditions at DSC's Trenton and Gibraltar facilities. Based on the information in your letter and on the information currently in our possession, U.S. EPA neither plans nor anticipates pursuing any further corrective action at this facility. In addition, U.S. EPA intends to rely on MDEQ to resolve any current or future closure and corrective action issues associated with this facility. Please note, however, that this does not preclude U.S. EPA from undertaking any action at the facility at a later date if U.S. EPA obtains any information indicating that such action is necessary to protect human health or welfare or the environment.

why can EPA take this hands off approach here but had to have review & approval authority for the Detroit Coke site?

Based upon an April 27, 1998 inspection, U.S. EPA has identified TSCA compliance issues at the Gibraltar facility:

> DSC maintained combustible materials within 5 meters of a PCB transformer, GE #C695273, located at Respondent's Substation J, which constitutes a violation of 40 C.F.R. § 761.30(a)(1)(viii);
>
> DSC failed to mark the door to PCB transformer, GE #E690583, located at Respondent's Substation H, with an M_L label which constitutes a violation of 40 C.F.R. § 761.40(j).

Prior to filing a Complaint alleging the violations noted above, U.S. EPA is willing to discuss settlement with DSC and consider any information DSC may provide. If the parties agree on settlement terms, U.S. EPA would be willing to enter a Consent Agreement and Consent Order (CACO) concurrent with the filing of a Complaint.

As a part of the TSCA settlement negotiations, EPA is willing negotiate a schedule for management of PCB containing items. Any such schedule must include milestones for assessment and disposal of PCB containing items and must be incorporated into an enforceable agreement such as the TSCA CACO or a Consent Order based upon other U.S. EPA authority, such as Section 7003 of RCRA, 42 USC § 6973.

U.S. EPA believes that any negotiations concerning TSCA compliance issues and management of PCB containing items should be limited to ninety (90) days from the date of this letter. Therefore, if DSC is interested in pursuing such negotiations please contact Brian Barwick of U.S. EPA Region 5's Office of Regional Counsel as soon as possible. Mr Barwick's telephone number is (312) 886-6620.

If you have any questions concerning RCRA corrective action, please do not hesitate to contact Gerald Phillips at (312) 886-0977. If you have any questions concerning TSCA compliance or management of PCB containing items, you may contact Ken Zolnierczyk at (312) 353-9687.

Sincerely,

Robert Springer, Director
Waste, Pesticides and Toxics Division

cc: Brian Barwick (C-14J)
Ken Zolnierczyk (DT-8J)
Gerald Phillips (D-8J)

DEQ

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

ENVIRONMENTAL RESPONSE DIVISION

FAX COVER SHEET

ISSUED UNDER THE AUTHORITY OF ACT 451, P.A. 1994 AS AMENDED

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Section/Division:

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

Comments to Peter by COB Thursday cc Carrie

FACSIMILE TRANSMITTAL FORM

Date: March 26, 1999

Fax Recipients: Alan D. Wasserman, Counsel for City of Detroit - (313) 961-6879
Bob Reichel, Michigan Attorney General's Office - (517) 373-1610

Fax Sender:
Steven J. Murawski
Assistant Regional Counsel
United States Environmental Protection Agency
Region 5
77 West Jackson Boulevard (C-14J)
Chicago, Illinois 60604

Russ issues: Env. Justice Enf action y/no AOC

Telephone: (312) 886-6741

Fax Number: (312) 886-0747

Subject: Unapproved Modifications to the MOU

Number of Pages (including cover sheet): 7

Comments: Attached are changes to the MOU based on recent comments made by MDEQ, the City of Detroit, and the Michigan Attorney General. I have also tried to clarify Section VIII. At this point, these changes are only preliminary and proposed and lack USEPA management approval.

Let's have a conference call regarding the changes to the MOU on Monday, March 29, 1999 at 3:00 pm ET. I will be available at the telephone number above.

DNR ERD

MEMORANDUM OF UNDERSTANDING BETWEEN THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY AND THE MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

This Memorandum of Understanding (MOU) is entered into between the Regional Administrator, Region 5, United States Environmental Protection Agency (USEPA), and the Director, Michigan Department of Environmental Quality (MDEQ), in order to transfer the remediation authority from the USEPA Underground Injection Control (UIC) Program and the USEPA Resource Conservation and Recovery Act (RCRA) Program to MDEQ to remediate the environmental contamination at the Allied Signal Incorporated (Allied) Site located at 7819 West Jefferson, Detroit, Michigan, formerly known as the Detroit Coke Site (Site).

I. PARTIES

1. The following officials, or their representatives, are Parties to this MOU:

David Ullrich, Acting Regional Administrator, United States Environmental Protection Agency, Region 5

Russell Harding, Director, Michigan Department of Environmental Quality

II. BACKGROUND

2. The Site is a former coking facility occupying 60 acres at the confluence of the Detroit and Rouge rivers in southwest Detroit, Michigan, adjacent to the Zug Island industrial complex. In the past, the Detroit Coke Corporation (Detroit Coke) produced waste ammonia liquor as a by-product of the coking of coal and disposed of the ammonia liquor on-site into three permitted UIC wells.

3. As part of the USEPA UIC permits, Detroit Coke was required to comply with RCRA Corrective Action (CA) requirements under the authority of the USEPA UIC and RCRA Programs. 42 U.S.C. §§300f-300j-26; 42 U.S.C. §§6901-6992k; 40 C.F.R. Part 124; 40 C.F.R. Part 144; 40 C.F.R. Part 264; 40 C.F.R. §270.60(b).

4. In September of 1990, Detroit Coke closed the coking facility at the Site. Afterward, Detroit Coke used the three permitted UIC wells to dispose ammonia liquor which remained on-site in the above-ground storage tanks at the time of closure and to dispose rainwater which collected on-site. Recently, no fluids, other than those used for testing purposes by Detroit Coke and their contractors, have been disposed into the wells.

5. In June, 1995, Detroit Coke plugged UIC well #1. On March 26, 1996, Detroit Coke applied to USEPA for the renewal of their two remaining UIC permits at the Site, Permit Numbers MI-167-1W-(X)4 and MI-167-1W-0005. In the renewal applications, Detroit Coke requested that USEPA authorize the permits to allow for the disposal of potentially hazardous contaminated waters on-site as part of the remediation of the Site and for the continued disposal of rainwater that collects on-site. On August 15, 1996, Detroit Coke submitted an addendum to the application, requesting that the new permits authorize the use of the wells for the commercial disposal of liquid non-hazardous wastes. Subsequent failure of Detroit Coke to submit requested information regarding their application for the commercial use of the wells prevented USEPA from issuing permits authorizing such use. On February 13, 1998, Detroit Coke withdrew its request for USEPA to issue permits authorizing the commercial use of the wells.

6. On February 23, 1998, at the request of the City of Detroit (City), the MDEQ Environmental Emergency Response Division (ERD) mobilized a site-wide investigation to assess the contamination level of the Site and to determine the feasibility of reusing the property for other industrial purposes. ERD's continuing investigation resulted in two reports that summarized the investigation and further characterized the contamination at the Site.

7. On [DATE], Allied acquired ownership of the Site. Accordingly, Allied submitted an application to the USEPA UIC Program to request a transfer of ownership status from Detroit Coke to Allied on the UIC permits at the Site,

Permit numbers MI-163-1W-0004 and MI-167-1W-0005. Allied also intends to apply for renewal of the permits for the disposal of potentially hazardous contaminated waters on-site as part of the remediation of the Site.

8. On [DATE], the USEPA UIC Program executed a minor modification of the UIC permits, Permit numbers MI-163-1W-0004 and MI-167-1W-0005, to reflect the change in ownership status from Detroit Coke to Allied in accordance with 40 C.F.R. § 144.41. At a later date, after MDEQ has issued an appropriate mechanism for requiring and enforcing remediation requirements on the responsible parties (RPs), USEPA will issue new permits to Allied with the RCRA CA requirements removed.

9. Because the City and MDEQ believe that the Site investigation shows a feasibility for reuse and can be characterized as a Brownfield Redevelopment Project, the City has expressed an interest in ensuring an expedited remediation of the Site for reuse by several industrial entities.

10. This MOU is an outgrowth of the need for the Parties to collaborate in order to ensure the efficient, effective, expedient and complete remediation of the Site in accordance with Federal and State statutory and regulatory requirements.

III. AUTHORITY

11. USEPA enters into this MOU in furtherance of its statutory and regulatory responsibilities and authority under RCRA CA Requirements in current enforceable UIC permits and other applicable federal laws and regulations. 42 U.S.C. §§300f-300j-26; 42 U.S.C. §§6901-6992k; 40 C.F.R. Part 124; 40 C.F.R. Part 144; 40 C.F.R. Part 264; 40 C.F.R. §270.60(b). MDEQ enters into this MOU in furtherance of its statutory and regulatory responsibilities and its delegated authority under RCRA. 42 U.S.C. §6926; 40 C.F.R. Part 272, Subpart X; Mich. Comp. Laws §§324.11101-324.1152 (1997); Mich. Comp. Laws §§324.20101-324.20142 (1997).

IV. PURPOSE

12. The purpose for this MOU is to memorialize the transfer, from USEPA to MDEQ, of USEPA's authority to lead and enforce remediation efforts at the Site under the authority of USEPA's UIC and RCRA Programs.

V. GENERAL PROVISIONS

13. Each Party to this MOU is responsible for ensuring that its obligations under the MOU are met.

14. Each Party commits to incorporating the relevant provisions and objectives of the Detroit River Remedial Action Plan, the Rouge River Remedial Action Plan, the Great Lakes Water Quality Agreement and the Great Lakes Water Quality Initiative when developing and implementing remediation measures for the Site with respect to contaminated ground water and sediment.

15. Until RCRA CA authority is transferred from USEPA to MDEQ pursuant to Paragraph 21, MDEQ commits to including USEPA in all decision-making regarding the remedial investigation and the development of the Remedial Action Plan which includes determining appropriate contamination pathways, assessing impacts on river sediments and aquatic life, and choosing appropriate corrective measures. After RCRA CA authority is transferred pursuant to Paragraph 21, USEPA will serve in an advisory capacity.

16. MDEQ commits to coordinating with USEPA on the development and issuance of an appropriate mechanism for requiring and enforcing remediation requirements on the responsible parties (RPs).

17. MDEQ commits to requiring the RPs to satisfy the remediation criteria requirements set forth in its Mich. Comp. Laws §§324.20101-324.20142 (1997) including, but not limited to,:

a. Collecting sufficient information to identify source areas of contamination, determine the nature and

extent of contamination, and identify contaminant transport and exposure pathways;

b. Identifying all of the contamination requiring remediation or control; and

c. Developing and implementing a Remedial Action Plan to achieve relevant remediation criteria.

18. MDEQ commits to issuing an appropriate mechanism for requiring the RPs to perform remediation of the Site within a reasonable time frame. ~~This condition avoids any lapse in authority to enforce liability requirements on RPs.~~

19. USEPA will coordinate with MDEQ in any USEPA decision regarding the UIC wells, to ensure that RCRA CA liability for the past and present owners or operators of the Site does not lapse.

20. USEPA will not enforce the RCRA CA requirements in the UIC Permits MI-167-1W-004 and MI-167-1W-005 while the RCRA CA authority is being transferred from USEPA to MDEQ provided that MDEQ meets all of its obligations under the MOU.

VI. MECHANISM FOR TRANSFER OF CORRECTIVE ACTION AUTHORITY

21. The Parties agree to the following mechanism to transfer RCRA CA authority from USEPA to MDEQ: MDEQ must issue an enforceable order to the RPs at the Site, including Allied, requiring the RPs to remediate the Site under the standards set forth in Mich. Comp. Laws §§324.20101-324.20142 (1997) and under ERD authority. Once MDEQ issues an enforceable order against the RPs and a Remedial Action Plan has been approved by both Parties pursuant to this MOU, USEPA will formally remove the RCRA CA requirements from the UIC Permit Numbers MI-167-1W- 0004 and MI-167-1W-0005 and transfer its authority under the terms of this MOU.

VII. INFORMATION SHARING

22. Each Party to this MOU agrees to maintain a high level of cooperation to ensure that successful and effective coordination between the Parties is maintained to meet the objectives of this MOU. Cooperation includes prompt notification to each Party of any changes occurring at the Site or decisions being made about the Site.

23. MDEQ commits to providing USEPA with the opportunity to review and comment on all proposals, workplans and reports developed by the state, its contractors, Allied and its consultants, or any other RP.

24. MDEQ commits to providing USEPA with two (2) copies of all letters, proposals, workplans and reports within three days of receipt or issuance by MDEQ, and at a minimum, before they are released to the public. If the information that MDEQ provides to USEPA under this Paragraph is available in electronic format, MDEQ also commits to providing the information to USEPA under that format.

25. USEPA commits to providing comments on all proposals, workplans and reports within thirty (30) days from the date of receipt; for less significant proposals, workplans and reports, USEPA commits to providing comments within a shorter time frame. During the thirty (30) day period, MDEQ will not implement any proposed action unless it receives, considers and incorporates USEPA's comments. If USEPA has not commented within thirty (30) days, MDEQ may proceed with its proposed action. Under this paragraph, USEPA does not imply its concurrence or consent to the proposals, workplans or reports if it has not provided comments within thirty (30) days of receipt.

26. USEPA commits to providing MDEQ with copies of future UIC permit application information regarding this Site including letters, proposals, workplans, and reports developed by USEPA or by the permit applicant.

27. The Parties shall require any person who submits information related to this Site to one of the Parties, to simultaneously provide the same information to the other Party. Under this Paragraph, the information related to

this Site includes any technical or financial reports, data, or notices regarding the approval, selection and oversight of activities.

VIII. PUBLIC PARTICIPATION

28. The Parties recognize the importance of public participation in development of plans for remediation and restoration activities at the Site.

29. The Parties agree that they will work jointly to ensure that adequate public participation is incorporated in any USEPA UIC permitting action at this Site and any MDEQ remediation of this Site, as required by Federal or State statutes, regulations or guidance.

30. The Parties commit to holding joint public meetings regarding the remediation of the Site. The first public meeting will convene within thirty (30) days of the effective date of this MOU. At the first public meeting, the Parties will explain the transfer of RCRA CA authority from USEPA to MDEQ and the proposed plans for remediation ~~and redevelopment~~ of the Site. The Parties may also, from time to time, convene public meetings on other aspects of Site activities as they deem appropriate. (Agency lead not CA autho.

31. The Parties commit to establishing and consulting a small public group of interested citizens and representatives of stakeholder organizations (Group) regarding the remediation and redevelopment of the Site. To establish the Group, the Parties will contact individuals, community groups, and environmental or other organizations that have previously expressed an interest in the environmental issues and future activities at the Site. The initial Group will be established within two (2) weeks of the effective date of this MOU. The initial Group can be expanded if additional citizens or stakeholders express an interest in membership. After the Parties establish the Group, the Parties will consult with the Group on a continuing and meaningful basis throughout the remediation process. Consultation with the Group includes notifying Group members about upcoming public meetings, providing releasable documents to the Group members upon request, participating in stakeholder meetings if invited by Group members, and conducting regularly scheduled conference calls (frequency to be determined by the Group) to provide status updates of the project. The Parties will also establish points of contact for the Group at USEPA and MDEQ to answer specific questions about on-going remediation at the Site. Citizen Advis. Comm.

32. The Parties will provide public notice of its proposed selection of remediation plans and restoration plans under this MOU, and will convene public meetings to take comments for consideration on proposed plans prior to their final selection of the Remedial Action. Prior to any public meeting, the Parties shall provide a summary of the information to be discussed at the meeting in accordance with Paragraph 35.

33. The Parties agree that it is in the public interest that all scientific data arising out of any activities undertaken by MDEQ or its agents be made public. Therefore, such data shall be made public in accordance with Paragraph 35 as soon as publication would not prejudice activities undertaken by MDEQ.

34. While public sharing of scientific data resulting from MDEQ activities will be the general policy of the Parties, the Parties recognize that written or oral communication related to MDEQ activities may be undertaken in anticipation of litigation. Therefore, attorney work product, attorney-client communications, communications subject to joint enforcement, or communications otherwise subject to privilege from disclosure may be withheld, as appropriate, under applicable federal or state law or regulation.

35. All written information released under this Section of the MOU shall be placed in the following four repositories for public review:

1. City of Detroit Mini-City Hall, 7744 W. Vernor Hwy.
2. City of Detroit Mini-City Hall, 2569 S. Schaeffer
3. Del Ray Citizens District Council, 7914 W. Jefferson

4. River Rouge Mayor's Office

36. Nothing in this section of the MOU shall be construed as prohibiting or restraining the Parties from releasing any records. Furthermore, nothing in this section of the MOU shall be construed as prohibiting or otherwise restraining the release of records required by federal or state law or regulation.

IX. BROWNFIELD AND FUTURE ENFORCEMENT

37. Both Parties recognize that the redevelopment of this contaminated Site provides significant benefits to the protection of human health and safety, the environment and the economy of local communities surrounding the Site. Both Parties also recognize this Site as a Brownfield Site. Accordingly, USEPA and MDEQ agree to mutually exercise their authorities to facilitate the productive redevelopment of this Site.

38. In support of promoting and implementing USEPA's Brownfields Initiative and of redeveloping this Site, USEPA does not plan or anticipate taking any future federal action related to remediation of this Site if:

1. MDEQ satisfies the requirements of this MOU;

2. any current or future owner or operator of the Site is not otherwise liable for contamination existing on the Site; and

3. any current or future owner or operator of the Site conducts its activities on the property consistent with the requirements of the MDEQ-USEPA approved Remedial Action Plan and of the USEPA UIC permits MI-167-1W-0004 and MI-167-1W-0005. DEQ approved response actions

X. DISPUTE RESOLUTION

39. This section shall apply to any dispute arising under any section of this MOU unless specifically exempted.

40. The Parties shall use their best efforts, in good faith, to informally resolve all disputes or differences of opinion between the Parties.

41. If a dispute arises concerning this MOU that one of the Parties believes cannot be settled informally, the Party shall send written notification to the other Party identifying the issue in dispute and explaining why the dispute cannot be informally resolved.

42. If the dispute concerning the MOU has not been resolved within twenty (20) days of the receipt of written notification from the other Party, the dispute shall be referred to the level of officials signing this MOU for resolution.

XI. MODIFICATION AND TERMINATION

43. This MOU may only be modified by the mutual written agreement of both Parties.

44. This MOU can be terminated by:

a. mutual written agreement of both Parties; or

b. withdrawal by one of the parties upon thirty (30) days written notice to the other Party. The MOU shall remain in full force and effect until the thirty (30) days has elapsed.

XII. LIMITATION

45. Nothing in this MOU shall be construed as obligating the United States and State of Michigan or any officers, agents or employees of the United States and State of Michigan to expend any funds for response actions or remediation at the Site in excess of appropriations authorized by law.

46. The rights and responsibilities contained in this MOU:

a. are subject to the availability of funding;

b. shall not create any legal or enforceable rights for any third party; and

c. shall not be the basis of any third party challenges or appeals.

XIII. RESERVATION OF RIGHTS

47. Notwithstanding any provision in this MOU, the Parties reserve any and all rights or authority not transferred by this MOU. Nothing in any provision of this MOU limits or affects the authority not transferred by this MOU or the ability of either Party to take any action authorized by law.

XIV. EXECUTION AND EFFECTIVE DATE

48. This MOU may be executed in counterparts. A copy with all of the originally executed signature pages affixed shall constitute the original MOU.

49. The effective date of this MOU shall be the date of the signature of the last Party to sign.

Signatures for:

David Ullrich
Regional Administrator, U.S. Environmental Protection Agency, Region 5

Russell Harding
Director, Michigan Department of Environmental Quality

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

FACSIMILE TRANSMITTAL FORM

Date: March 29, 1999

Fax Recipients: Alan D. Wasserman, Counsel for City of Detroit - (313) 961-6879
Bob Reichel, Michigan Attorney General's Office - (517) 373-1610

Fax Sender: Steven J. Murawski
Assistant Regional Counsel
United States Environmental Protection Agency
Region 5
77 West Jackson Boulevard (C-14J)
Chicago, Illinois 60604

Telephone: (312) 886-6741

Fax Number: (312) 886-0747

Subject: EJ Meeting Notes

Number of Pages (including cover sheet): 4

Comments: Attached are the EJ notes that I think are from the same meeting Sarah Lyle attended on March 25, 1999.

Community Outreach Subgroup Charge

Public participation is a key aspect to addressing environmental justice concerns in a proactive manner. In environmental justice areas, extra efforts beyond the normal public participation requirements of environmental statutes may be needed to engage the citizenry on an upcoming action by the environmental regulatory agency. Outreach efforts may be necessary to ensure that the local community is informed about the issue and has meaningful opportunities to engage in the issue. This subgroup will make recommendations on what additional outreach or public participation efforts beyond those required by statute should be undertaken in environmental justice areas.

The Problem

Often and even with full compliance with environmental statutes and the Michigan Administrative Procedures Act, residents of environmental justice areas in which new or modified facilities are proposed have great difficulty understanding the actual impact that the facility will have on them. Residents may have difficulty receiving notice of the proposal due to minimal public notice requirements. The published public notices are hard to find and difficult to understand. Residents may lack the technical expertise and training necessary to objectively understand and evaluate the impacts of a facility.

Public participation is normally limited to review of technical information organized and submitted to support compliance with specific regulatory requirements and permit approval. The information available by the permit process is often not in the form or content to address specific community interest nor is it in an understandable format.

Fulfillment of all statutory requirements and a valid permit are no guarantee the applicant's neighbors will feel comfortable that their health and the environment will be protected.

Statement of Principles

Permit applicants should voluntarily engage residents of environmental justice areas in meaningful dialog when proposing new facilities and expansion of existing facilities.

Permit applicants and regulatory agencies should voluntarily go beyond the minimum public participation requirements of environmental statutes and the Michigan Administrative Procedures Act for proposed new facilities and expansions of an existing facilities located in environmental justice areas.

Regulatory agencies and permit holders, who have demonstrated a competency in effective public participation, should provide assistance to potential permit applicants for proposed new facilities and expansions of an existing facilities located in environmental justice areas.

Regulatory agencies and permit holders, who have demonstrated a competency in effective public participation, should provide technical assistance to communities located in environmental justice areas where a proposed new facility or expansion of an existing facility is contemplated.

Statutory Public Participation Requirements

Statutes require that for proposals for major sources of and major modifications of sources of air pollution, the regulatory agency must provide public notice and an opportunity for a public hearing and comment prior to issuing its decision. The requirements of publishing public notices result in notices that are published in newspapers that are minimally effective. The public hearing is a quasijudicial event that does not allow for any interaction with area residents. Written and oral comments are accepted. The agency responds to the comments in writing, explaining why the agency did or did not agree with the comment without the chance of further interaction.

Proposal

The Community Outreach Workgroup proposes that potential permit applicants and actual applicants be encouraged to begin to work with their neighboring communities as early as possible. The applicants should be advised by those with experience in successfully working with their own neighbors. Community members should have objective technical resources available to them to assist them in understanding the impacts of the proposed facility or modification of a facility. Meetings between the applicant and the community should be held as early as possible, and preferably before a permit application is submitted.

The Community Outreach Workgroup proposes that a resource group be established. The group would consist of state and local agency personnel and holders of permits located in environmental justice areas. The group would be available to provide technical assistance to the community. A second charge for the group would be to provide assistance to potential applicants regarding how to engage in effective public participation.

The DEQ would support the resource group through a home page within their Internet resources the home page could be used by both potential applicants and environmental justice communities.

Recent Example of Effective Public Participation

The following is a recent example of the implementation of some of the above principles.

Dearborn Assembly Plant, Ford Motor Company

Ford Motor Company engaged in a series of meetings with community groups regarding installation of a new automobile painting operation at the Dearborn Assembly Plant. The purpose of the meetings was to enhance and expand the publics participation in the permit review process by providing information regarding the facility plans and answer questions related to environmental affects of the proposed project. Regulations for major modifications provide for a 30-day public comment period, following MDEQ staff recommendation to issue a permit approving the proposed permit prior to a final decision. Minor source modifications do not require a public comment period. Ford voluntarily lengthened the comment period for the Dearborn project to provide additional time for community involvement.

Ford sought out and worked with an ad hoc group of local community organizations representing a cross section of ethnic, health and environmental interests. The ad hoc group provided a venue for sharing information and addressing concerns with those in the Rouge area community most likely to be interested in the facility plans. The community groups brought a focused interest in area air quality and it's relation to health concerns. The groups participating represented Arabic, American Indian and Hispanic ethnic communities, several local health clinics, and local and regional environmental activist organizations.

The meetings provided an opportunity to describe the proposed facility modifications, the beneficial environmental affects of the project and the importance of the project to the economic viability of the assembly plant in a way that was responsive to the local community's interests. This type of exchange and communication is not possible in the normal permit process.

Communication related initially specific to the painting facility has provided an opportunity for expanded dialog on a wide range of topics of interest to the local community. Information exchanges have occurred related to Ford environmental management practices, emergency preparedness, Y2K readiness, and other facility plans. The process has improved the Company's awareness and understanding of issues of interest and concern to the community. Ford views the process as a success and will seek to remain actively engaged in dialog with the community groups.

STATE OF MICHIGAN

REPLY TO:

ENVIRONMENTAL RESPONSE DIVISION
KNAPPS CENTRE
PO BOX 30426
LANSING MI 48909-7926

JOHN ENGLER, Governor
DEPARTMENT OF ENVIRONMENTAL QUALITY
"Better Service for a Better Environment"
HOLLISTER BUILDING, PO BOX 30473, LANSING MI 48909-7973

INTERNET: WWW.DEQ.STATE.MI.US

RUSSELL J. HARDING, Director

[Date]

Mr. Timothy J. Metcalf
Allied Signal, Inc.
P.O. Box 1139
101 Columbia Road
Morristown, New Jersey 07962-1139

Dear Mr. Metcalf:

SUBJECT: Redevelopment Plan for the Former Detroit Coke Corporation Facility, Detroit, Michigan April 12, 1999

The Michigan Department of Environmental Quality (MDEQ), Environmental Response Division, has reviewed the Redevelopment Plan submitted at our meeting on April 12, 1999. In general we view the plan as a positive step in the remediation and redevelopment of the former Detroit Coke site. The following comments on the plan follow the outline of Conditions to Evaluate in Assessing Compliance with Part 201 Cleanup Criteria Worksheet, which can be found on the DEQ/ERD homepage at http://www.deq.state.mi.us/erd/.

Source Control

1A) Free Phase Liquids

The Plan addresses free phase liquids with a combination of excavation and **seven** product capture wells. The wells will be designed to capture DNAPLs and LNAPLs. The wells will be located in areas of known product (based upon well and test pit data). It is unclear whether the seven wells will be adequate. The effective radius of capture for the free product is unknown and other free product may exist. A more robust system may be needed with wells spaced more conservatively (closer). This will ensure that adequate capture occurs and will allow for shut down and maintenance of the wells (which will be inevitable). An alternate approach would be to allow for a limited number of wells with extensive monitoring such that free product will be detected if it escapes the system.

The Plan implies that the proposed slurry wall will also serve to prevent migration of free product. There needs to be a demonstration, that the free phase liquids and contaminated groundwater will not compromise the integrity of the slurrywall.

Source Control, Other

The Plan also proposes to excavate (remove) tar from the three existing ASTs and liquid tar in the Tar Tank Solid Waste Management Unit (SWMU). Excavation will occur to the water table (or visual). In addition, point source removal is proposed, but is only planned for the area around Test Pit 1. Some soils may be consolidated into the cover or cap materials. The Plan does not state the objective of this source removal action, but the objective appears to be to remove the easily accessible source material. Other source material will remain below the water table in the removal areas and may remain undetected in other areas.

Risks to Due to Groundwater Contamination

2) Drinking Water Usage

The Plan does not specifically address drinking water usage. Groundwater use must be reliably restricted.

3) Dermal exposures

The criterion for Naphthalene is 31,000 ppb. Although this level has apparently not been detected in groundwater at the site, the levels in groundwater have not been completely characterized. It is reasonable to expect these levels in the source areas. Considering that this is a presumptive remedy, use restrictions covering Dermal Exposure should be implemented. The restriction should encompass the majority of the north portions of the site. For simplicity this could be the area behind the proposed slurry wall.

4) Indoor Air

The development Plan apparently incorporates vapor barrier and control as part of the Due Care provision. This same language should be included in the Plan as a restriction to address this exposure route.

5) Hazards to Surface Water

This is one of the most critical exposure pathways for the site. Preliminary discussions with the SWQD indicate that several site contaminants (ammonia and cyanide) will exceed criteria. Containment must be designed to prevent the migration of groundwater from the upgradient source areas into the river. The proposed poly wall location encloses approximately 40 acres of the 70-acre site. The poly wall should extend as close as possible to the rivers to maximize the containment area. It appears that the wall could be effectively keyed into the clay as close as 200 feet of the rivers at most locations. This would reduce the volume of contaminated groundwater entering into the rivers. Data and supporting permeability calculations must be provided to demonstrate compatibility of the proposed bentonite-soil slurry and geomembrane with site materials including high pH groundwater. Furthermore, data must be provided that demonstrates that the existing fill material when mixed with bentonite is capable of producing a low conductivity barrier to site groundwater. Allied Signal should also provide a detailed construction quality assurance (CQA) plan for construction of the poly wall. Copies of maps showing

the locations of subsurface utilities and structures that will remain at the site. The poly wall construction plans should provide construction details of all wall penetrations, methods for sealing the penetrations, and a plan to document the wall integrity at those locations.

The Plan proposes to use a slurry wall to "control lateral migration of impacted groundwater". The Plan does not indicate how groundwater will be controlled behind this wall. Calculations suggest that volumes as great as 20,000 gallons per day flow from the site. The Plan needs to clearly demonstrate that groundwater will be controlled. This could be a combination of the slurry wall and infiltration limitation via a cap and northern wall with limited extraction, or more aggressive extraction of groundwater along the wall with no northern slurry wall. The Plan proposes to use the existing fill material and planned construction as an infiltration barrier. If infiltration is part of the groundwater control system, then the Plan must include specifications regarding infiltration limitations other than to use proposed construction.

The proposed Work Plan does not incorporate active remediation of groundwater outside the poly wall enclosure. The groundwater outside the proposed poly wall contains ammonia, benzene, cyanide, and naphthalene at concentrations that exceed the GSI criteria. Groundwater outside the proposed containment area must be captured or a mixing zone determination must be obtained, which demonstrates compliance with Part 201 criteria.

In a conversation with an MDEQ-SWQD representative, we were informed that acute criteria for ammonia and cyanide would be specified for the Detroit Coke Site. For other sites along the Detroit River, the acute ammonia concentration was approximately 300 ug/l and the acute cyanide concentration was approximately 40 ug/l. As these are acute levels, there is no provision or allowance for dilution of these compounds venting at the GSI.

Calculations should be completed to estimate the daily mass loading of ammonia and cyanide into the Detroit River and the Rouge River from the mass of ammonia and cyanide present in the fill material located outside the poly wall. This information will assist the DEQ in assessing the significance of the contaminated groundwater migrating to the rivers.

Risks due to Soil Contamination

6) Direct Contact
Tars and other contaminates above direct contact criteria will remain in place. Reliable restrictions and or cover are needed for the entire property.

7,8) Inhalation
Considering that this is a presumptive remedy, and that tars will remain on site, restrictions should be placed on the entire site. The Plan should include specifications regarding vapor migration prevention, preferably some type of synthetic barrier.

9,10,11) Injury to Groundwater
As with the previous comments, the remedy is presumptive and tars will remain in place. These tars have been demonstrated to leach above one or several of these criteria. The soils and tars would continue to leach and generate groundwater that exceeds criteria. This pathway therefore would continue to present a risk to the groundwater at the site. An infiltration barrier could act to decrease this risk and should be considered as part of the presumptive remedy. Barriers or caps are a typical component of landfill presumptive remedies. Considering the proximity of the groundwater to the source and the data confirming that leaching is continuing, an infiltration barrier should be part of site source control.

12) Soil runoff to surface water
This is likely a very crucial pathway considering the extent of impacted soils on site. Apparently data exist indicating that the River sediments have been impacted at this location. Considering that the site is located at the junction of the Detroit River and the Rouge River it will be difficult to identify the source of that sediment contamination. I recommend that these data be reviewed prior to any decisions regarding remedial action.

The Plan proposes to contain all storm water. This is a necessary part of the Plan unless it can be demonstrated that storm water will not contact site soils. It may also be possible to construct some type of sediment control structure to prevent the migration of site sediments into the River. Storm water regulations would need to be met as part of the Plan. Further discussion is needed regarding this pathway.

Groundwater Monitoring

The groundwater monitoring plan needs to include groundwater wells within and outside of the slurry wall, wells adjacent to the river and upgradient, treatment system influent and effluent, and storm water runoff and sediments. The system must be designed so that system failures can be addressed in a period of time such that contingencies can be implemented, if necessary. In addition the monitoring plan must produce an adequate data set such that seasonal variations in groundwater flow and variations in the levels of contamination can be characterized adequately. These objectives necessitate a complex plan with various target and review points. The proposed monitoring plan includes 3 years of perimeter monitoring. This will not meet the above objectives and the Plan needs to be modified.

Contingency Plan

The Plan should include a contingency plan to address possible failure of any of the proposed remedial measures. The contingency plan should incorporate clear triggers and steps to be taken with each trigger. Triggers should include increased levels of target compounds in downgradient wells, increased levels of target compounds in storm sediments, groundwater treatment system breakthrough, injection well failure, etc.

If you should have further questions or concerns, please contact Edward Novak, Environmental Response Division, Southeast Michigan District Detroit Office, at 313-392-6527.

Sincerely,

Andrew Hogarth, Assistant Chief
Environmental Response Division
517-373-9838

cc: Mr. Edward Novak, MDEQ
Mr. Steve Hoin, MDEQ
Ms. Caroline Olmsted, MDEQ
Mr. Pete Quackenbush, MDEQ
Mr. Robert Reichel, Assistant AG
Mr. Peter Manning, Assistant AG
Mr. Allan Melzer, USEPA
Ms. Sarah Lile, City of Detroit
Ms. Karen O'Donahue, DEGC
Ms. Sharon Newlon, Dickinson-Wright

STATE OF MICHIGAN

REPLY TO:

ENVIRONMENTAL RESPONSE DIVISION
KNAPPS CENTRE
PO BOX 30426
LANSING MI 48909-7926

JOHN ENGLER, Governor
DEPARTMENT OF ENVIRONMENTAL QUALITY
"Better Service for a Better Environment"
HOLLISTER BUILDING, PO BOX 30473, LANSING MI 48909-7973

INTERNET: WWW.DEQ.STATE.MI.US

RUSSELL J. HARDING, Director

[Date]

Mr. Timothy J. Metcalf
Allied Signal, Inc.
P.O. Box 1139
101 Columbia Road
Morristown, New Jersey 07962-1139

Dear Mr. Metcalf:

Thank you for the Redevelopment Plan for the Former Detroit Coke Corporation Property (the Property), which you provided to the Michigan Department of Environmental Quality (MDEQ) on April 12, 1999. We view the plan as a positive step in the remediation and redevelopment of the Property. We have reviewed the Redevelopment Plan, and have prepared this letter to provide you with our written comments.

The MDEQ is currently negotiating a Memorandum of Understanding (MOU) with the United States Environmental Protection Agency to allow MDEQ to be the lead regulatory agency in the remediation of the Property and allow the remediation to proceed in accordance with Part 201 of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, (NREPA). Part 201 of the NREPA requires remediation of the entire facility. The "facility", as defined in Part 201 of the NREPA, extends beyond the boundaries of the Property. The MOU anticipates the entry of a legally enforceable agreement (Agreement) between the state and Allied Signal, Inc. (Allied). The MDEQ intends to include in the Agreement all the necessary elements to support the implementation of an MDEQ-approved interim response to expedite the redevelopment and remediation of the Property portion of the facility, and augment it with a remedial action plan (RAP) for the entire facility, defined and regulated by Part 201 of the NREPA. More specifically, MDEQ intends to include the following performance standards in the Agreement:

1) The remediation of the facility that complies with Part 201 of the NREPA.
2) The implementation of an MDEQ-approved Redevelopment Plan at the Property as an interim response. The elements of an MDEQ-approved interim response include:

A. Source control necessary to improve the effectiveness and efficiency of the remedial action and promote the redevelopment of the Property;
B. Land use or resource use restrictions necessary to preclude unacceptable exposure to hazardous substances at the Property; and,
C. Financial assurance, in a mechanism acceptable to the MDEQ to pay for monitoring, operation and maintenance, oversight, and other costs necessary to ensure the effectiveness and integrity of the interim response activity.

The Redevelopment Plan addresses the removal of a portion of the observed free phase liquid and free phase liquid saturated fill material. In addition, the plan presents the use of a containment wall barrier to contain the contamination for the majority of the Property. The plan acknowledges the existence of impacted groundwater outside the containment wall and proposes a three-year period for monitoring groundwater quality outside the wall. The groundwater monitoring plan will be reevaluated at the conclusion of the three-year monitoring period. In general, this approach is acceptable. However, a number of issues regarding the details of the design and performance measures, in particular the contaminated groundwater outside the containment barrier, remain to be worked out. Our comments regarding these matters are attached.

The Redevelopment Plan provided by Allied, in conjunction with the construction anticipated as part of the actual redevelopment of the Property, includes presumptive remedies which, when combined with appropriate land use restrictions, will enable the project to proceed without full characterization of the contamination at the Property. Please be aware that without the appropriate presumptive remedies and use restrictions, additional characterization of contamination will be required.

Please modify your Redevelopment Plan to incorporate the elements we have identified that are necessary to fulfill the requirements of a comprehensive interim response for the Property. This submittal, if approveable to the MDEQ, would serve as the interim scope of work for any Agreement that we reach.

If you should have further questions or concerns, please contact Edward Novak, Environmental Response Division, Southeast Michigan District Detroit Office, at 313-392-6527, or contact me directly.

Sincerely,

Andrew Hogarth, Assistant Chief
Environmental Response Division
517-373-9838

cc: Ms. Sarah Lile, City of Detroit
Ms. Sharon Newlon, Dickinson-Wright
Ms. Karen O'Donahue, DEGC

Mr. Allen Melcer, USEPA
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Mr. Peter Manning, Assistant AG
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Mr. Edward Novak, MDEQ
Mr. Steve Hoin, MDEQ
Ms. Carrie Olmsted, MDEQ

TECHNICAL COMMENTS

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Detroit Coke RCRA Corrective Action Briefing Paper - September 1, 1998

Contacts: UIC - Allen Melcer, (312)886-1498; RCRA - Greg Rudloff (312)886-0455; ORC - Steven Murawski, (312)886-6741

Purpose:
The purpose of this options paper is to provide management, through the Division Director level, with sufficient information regarding the Detroit Coke corrective action to allow them to direct their staff as to the preferred course of action. This paper describes the current status of the Detroit Coke corrective action, and presents options for USEPA to consider in deciding how to remediate a specific portion of the Site and provide assurance of no-liability to the end user of that portion of the Site while continuing corrective action activities on the rest of the Site. Part I of the paper offers a brief summary of the three options and the recommendation developed by USEPA staff. Part II of the paper offers a full discussion of the three options including advantages and disadvantages of choosing the specific option.

PART I
BRIEF SUMMARY

USEPA staff has outlined three different options to remediate the Detroit Coke Site. When drafting the options, USEPA staff attempted to include all of the major concerns of the USEPA, the City of Detroit and MDEQ.

Option 1: Clean-up and Acquisition

A. Detroit Coke or MDEQ remediates the 25-acre portion of the property desired by the City of Detroit under USEPA Corrective Action Authority in the existing UIC permits.

B. USEPA provides a certification of remedy completion for the 25-acre portion of the site after the remediation (if regulatory and statutory requirements are fulfilled).

C. Detroit Coke transfers the 25-acre portion of the property to the City of Detroit and USEPA redefines the Detroit Coke Site in the existing UIC permits.

Option 2: Acquisition and Clean-up

A. The City of Detroit acquires the 25-acre portion of the property desired from Detroit Coke and USEPA redefines Detroit Coke Site in the existing UIC permits.

B. MDEQ issues a corrective action permit or order to the City of Detroit; however, MDEQ remediates the 25-acre portion of the Site.

C. MDEQ provides a certification of remedy completion for the 25-acre portion of the site.

Option 3: Clean-up, Acquisition and New Permit Issuance

A. Detroit Coke or MDEQ remediates the 25-acre portion of the property desired by the City of Detroit under USEPA Corrective Action Authority in the existing UIC permits; simultaneously, Allied-Signal applies for UIC permits currently held by Detroit Coke.

B. USEPA provides a certification of remedy completion for the 25-acre portion of the site after the remediation (if regulatory and statutory requirements are fulfilled).

C. Detroit Coke transfers the 25-acre portion of the property to the City of Detroit and USEPA issues to Allied-Signal UIC permits that do not include the 25-acre portion of the site.

Recommendation: The staff believes that Options 1 and 3 are equally acceptable options. However, any Option chosen would require the City of Detroit to enter into potentially extensive negotiations with Detroit Coke, Allied-Signal and MDEQ. Furthermore, until the City negotiates an agreement with the current site owners, the staff recommend that USEPA continue to enforce the current corrective action requirements imposed upon the current UIC permit holders, Detroit Coke. Moreover, until MDEQ issues a corrective action permit or order to an owner or operator of the site, USEPA must continue to maintain the lead of the corrective action requirements at the site.

PART II
DISCUSSION

Background:
The Detroit Coke facility (Site), located in an Environmental Justice community at the confluence of the Detroit and Rouge rivers, is in southwest Detroit, adjacent to the Zug Island industrial complex. Detroit Coke was a coking facility, formerly owned by Allied-Signal Corp., that produced waste ammonia liquor which was disposed of into three on-site Class I hazardous waste underground injection control (UIC) wells. In September 1990, the Detroit Coke facility closed down. In June 1995, UIC well #1 was plugged. The current Federal UIC permits issued to Detroit Coke have site-wide corrective action requirements in them because Federal UIC permits are RCRA permits by rule and therefore include corrective action requirements. At the time the UIC permits were originally issued to Detroit Coke on September 26, 1991, the State of Michigan was not authorized to administer RCRA corrective action permits. However, on April 8, 1996, USEPA approved Michigan's corrective action program and authorized Michigan to administer RCRA corrective action permits. Pursuant to the existing UIC permits' corrective action provisions, Detroit Coke first submitted a RCRA Facility Investigation (RFI) workplan to USEPA for review and approval on April 1, 1996. USEPA suspended review of Detroit Coke's revised RFI workplan when USEPA learned that MDEQ began a State-funded RFI on February 23, 1998.

MDEQ began the State-funded workplan due, in part, to a recently approved plan to construct casino gambling facilities in Detroit. The chosen location for the casinos is currently occupied by cement storage silos. The City of Detroit (City) proposes relocating the cement silos to the Detroit Coke Site in order to make room for the casinos. The City is prompting the MDEQ to take the lead for corrective action in order to conduct an expedited clean-up.

Detroit Coke recently defaulted on its property taxes, causing the ownership of the Site to become clouded. However, Allied-Signal has recently paid the back taxes, thus redeeming Detroit Coke's ownership of the Site. From February, 1998, through June, 1998, the time when title to the Site was clouded, the MDEQ completed a State-funded facility investigation which shows extensive soil and water contamination. The contaminants are mainly coal tar constituents and metals. Contamination in numerous places exceeds state risk-based clean-up levels. Free product consisting of coal tar/coal oil was found in monitor wells and soil borings and appears to be ubiquitous throughout the Site. The corrective action

activities pursuant to the UIC permits and funded by both Detroit Coke and Allied-Signal, have been suspended due to the State's mobilization on-site, but may be resumed in the near future due to the length of time required to transfer the corrective action lead from USEPA to the State.

On August 19, 1998, the City of Detroit expressed their desire to purchase or otherwise obtain title to approximately 25 acres of the Site along the Detroit River. Afterward, the City would like to transfer the 25-acre parcel to three cement silo companies to compensate the companies for their property in the riverfront district where the casinos are to be built. However, the City does not want to assume corrective action liability for the parcel, nor do the cement companies. The City, MDEQ and USEPA have been exploring ways in which the parcel can be transferred to an end user (the cement companies) without incurring RCRA liability for past contamination.

Issues:

1. Can USEPA separate a relatively clean portion of a RCRA corrective action site from the more contaminated areas and allow that portion to be cleaned and sold to an end user?

2. After completion of the remediation, what assurances can USEPA provide to end users regarding RCRA corrective action liability?

Options:

1. **Clean-up and Acquisition**: Initially, the City, MDEQ and Detroit Coke would have to come to an agreement on the following sequence of steps. Under the existing Corrective Action authority of the UIC permits, the 25-acre portion of the Site desired by the City is remediated. Then, USEPA approves a certification of remedy completion to Detroit Coke that the 25-acre portion of the Site has been remediated according to statutory and regulatory requirements. USEPA, on Detroit Coke's request, modifies the UIC permits to remove the remediated portion from corrective action requirements. Simultaneously, the 25-acre parcel is surveyed and given a tax ID separate from the rest of the Detroit Coke facility. Afterward, the Site is acquired by the City of Detroit. Finally, the City transfers the property to the cement silo companies.

   A. **Advantages**

      1) MDEQ would not have to issue a corrective action permit or order to the City for the 25-acre parcel as would be required if Option 2 is selected.

      2) This option provides a USEPA and MDEQ RCRA liability shield for the City and any end user of the 25-acre parcel.

      3) Site remediation would occur more quickly under this option than under an option that requires transfer of the property prior to remediation (e.x. Option 2).

B. **Disadvantages**

1) If the City of Detroit enters into a contract with Detroit Coke, Detroit Coke could renege on their contract/promise to transfer the property to the City after remediation of the 25-acre portion of the property is complete. A possible solution is to enter into a contract prior to remediation which clearly outlines the property transfer and provides for liquidated damages for breach of contract.

2) After the clean-up, future releases (e.x. migration of contaminated groundwater) could occur from the northern portion of the Site to the 25-acre portion of the Site. A possible solution is to include an indemnification clause in the property transfer from Detroit Coke to the City of Detroit which would hold Detroit Coke liable for releases it caused before or after the property transfer; the indemnification clause could also address access issues between Detroit Coke and the City/end user should a future release occur.

3) If the City acquires the property through eminent domain, ownership can be tied up in Michigan State Court arguing about whether eminent domain requirements were satisfied by the City of Detroit. A possible solution is to enter into a consensual agreement which transfers the property.

4) USEPA would have to modify facially expired UIC permits to modify corrective action requirements against Detroit Coke.

2. **Acquisition and Clean-up**: The 25-acre parcel desired by the City is surveyed and given a tax ID separate from the rest of the Detroit Coke facility. Then, the City acquires the 25-acre portion of the Site from Detroit Coke. Afterward, MDEQ issues a corrective action permit or order to the City for the 25-acre portion of the Site. USEPA modifies the facially expired UIC permits to remove the 25 acres from the facility. However, MDEQ remediates the 25-acre portion of the Site. Next, USEPA and/or MDEQ provide written assurance to the City that the 25-acre portion of the Site has been remediated according to statutory and regulatory requirements. Finally, the City transfers the property to the cement silo companies.

A. **Advantages**

1) Avoids the possibility that Detroit Coke could renege on transfer of the property after MDEQ performs the clean-up.

2) This option potentially provides a USEPA and MDEQ RCRA liability shield for the City and any end user of the 25-acre parcel. However, this advantage is dependent upon USEPA's ability to maintain oversight, review and concurrence authority.

B. **Disadvantages**

1) After the clean-up, future releases (e.x. migration of contaminated groundwater) could occur from the northern portion of the Site to the 25-acre portion of the Site. A possible solution is to include an indemnification clause in the property transfer from Detroit Coke to the City of Detroit which would hold Detroit Coke liable for releases it caused before or after the property transfer; the indemnification clause could also address access issues between Detroit Coke and the City/end user should a future release occur.

2) If the City acquires the property through eminent domain, ownership can be tied up in Michigan State Court arguing about whether eminent domain requirements were satisfied by the City of Detroit. A possible solution is to enter into a consensual agreement which transfers the property.

3) USEPA would have to modify facially expired UIC permits to maintain corrective action requirements against Detroit Coke.

4) A conflict of interest could arise if the MDEQ Waste Management branch has to approve a certification of remedy completion for a remedy implemented by MDEQ ERD's contractor. A possible solution is to provide for USEPA oversight, review and concurrence in a Memorandum of Understanding (MOU) between USEPA and MDEQ.

5) USEPA cannot approve a certification of remedy completion for a clean-up performed under the authority of MDEQ unless USEPA maintains oversight, review and concurrence authority. A possible solution is to provide for USEPA oversight, review and concurrence in an MOU between USEPA and MDEQ.

3. **Clean-up, Acquisition and New Permit Issuance**: The City of Detroit, Detroit Coke and Allied-Signal could draft an agreement outlining the details of remediation and transfer to the City of the 25-acre portion of the Site. The 25-acre parcel should also be surveyed and given a tax ID separate from the rest of the Detroit Coke facility. While the remediation is being performed, Allied-Signal would submit an application to USEPA to take over the two injection wells from Detroit Coke. When remediation of the 25-acre portion of the Site is complete and Detroit Coke transfers ownership of the 25-acre portion of the Site to the City of Detroit, USEPA would provide written approval of remedy completion to Detroit Coke that the 25-acre portion of the Site has been remediated according to statutory and regulatory requirements. Finally, USEPA would issue UIC permits to Allied-Signal with corrective action requirements that do not include the 25-acre parcel.

A. **Advantages**

1) This option releases the 25-acre portion of the Site from corrective action requirements in the existing UIC permits while eliminating the necessity for the USEPA to modify the facially expired UIC permits.

2) MDEQ would not have to issue a corrective action permit or order to the City for the 25-acre parcel as would be required if Option 2 is selected.

3) This option provides a USEPA and MDEQ RCRA liability shield for the City and any end user of the 25-acre parcel.

4) Site remediation would occur more quickly under this option than under an option that requires transfer of the property prior to remediation (e.x. Option 2).

5) This option allows USEPA to directly impose RCRA corrective requirements on Allied-Signal rather than allowing Allied-Signal to continue acting in a voluntary capacity for Detroit Coke.

B. **Disadvantages**

1) Under this Option, timing of USEPA's issuance of the UIC permits to Allied-Signal and the completion of corrective action on the 25-acre parcel would be difficult to coordinate. This difficulty arises because Allied-Signal would be subject to the complete UIC permitting process which includes public comment periods and the right to appeal USEPA's permitting decision.

2) This Option would require a high level of cooperation between Allied-Signal, Detroit Coke and the City of Detroit to ensure that the timing of the issuance of the UIC permits and the completion of the remediation of the 25-acre portion of the property are properly coordinated. Thus far, the three parties have shown little ability to achieve such cooperation.

3) This option depends upon Allied-Signal's willingness to submit UIC permit applications to USEPA and to assume responsibility for the two UIC wells.

4) If the City of Detroit enters into a contract with Detroit Coke, Detroit Coke could renege on their contract/promise to transfer the property to the City after the remediation of the 25-acre portion of the property. A possible solution is to enter into a contract prior to the remediation which clearly outlines the property transfer and provides for liquidated damages for breach of contract.

Concerns:

1. USEPA is concerned that, under pressure from the City, MDEQ may not adequately address contaminated sediments and discharge of contaminated ground water to the Detroit and Rouge Rivers. This concern may be addressed by including oversight requirements in an MOU between MDEQ and USEPA.

2. USEPA also remains concerned about the remediation of the remaining portion of the Detroit Coke Site.

3. The community needs to be involved in the decision-making process because of potential disproportionate impacts in this Environmental Justice area. The community lacks confidence in MDEQ's ability to perform an adequate clean-up, believes that fugitive dust from the cement silos proposed for the Site may contribute to existing air quality problems in the area, and voices some concern about possible increased truck traffic that may occur if the silos are installed. These concerns may be addressed by ensuring that an MOU between MDEQ and USEPA contains increased public participation requirements.

Recommendation:

The staff believes that Options 1 and 3 are equally acceptable options. However, any Option chosen would require the City of Detroit to enter into potentially extensive negotiations with Detroit Coke, Allied-Signal and MDEQ. Furthermore, until the City negotiates an agreement with the current site owners, the staff recommend that USEPA continue to enforce the current corrective action requirements imposed upon the current UIC permit holders, Detroit Coke. Moreover, until MDEQ issues a corrective action permit or order to an owner or operator of the site, USEPA must continue to maintain the lead of the corrective action requirements at the site.

DETROIT COKE COMMERCIAL INJECTION WELL OPERATION AND SITE CLEAN-UP, DETROIT, MI

BACKGROUND

The Detroit Coke facility, located at the confluence of the Detroit and Rouge rivers, is in southwest Detroit, adjacent to the Zug Island industrial complex. Detroit Coke was a coking facility that produced waste ammonia liquor as a by-product of the coking of coal. The wastestream was disposed of into three on-site Class I hazardous waste injection wells completed in the Munising Formation. The three wells were constructed and operated between 1969 and 1990.

In September of 1990, the Detroit Coke facility was closed down. Since that time, the three injection wells have been used for disposing of ammonia liquor left in tanks at the time of shut down, and for disposing of rainwater which collects on site and in diked areas. In June, 1995, waste disposal well #1 was plugged.

On March 26, 1996, Detroit Coke submitted an application to Region 5 for renewal of their two Underground Injection Control (UIC) permits. The permits are for two existing deep injection wells to allow for the disposal of potentially hazardous contaminated waters as part of the Corrective Action clean-up of the site and to continue disposal of rain water that collects on site. On August 15, 1996, Detroit Coke submitted an addendum to the application requesting that the new permits, if issued, authorize the use of the wells for commercial disposal of liquid non-hazardous wastes. Detroit Coke has applied for hazardous waste disposal permits in case the contaminated ground water is hazardous.

Although Detroit Coke is applying for hazardous waste disposal permits, if the permits are granted they must still apply for and receive an exemption to the land disposal ban before they can commence injection of hazardous waste. They are currently applying for commercial disposal of non-hazardous wastes only, however, they can request authorization for commercial disposal of hazardous waste in the future.

CURRENT STATUS

The UIC permit applications are currently under review by Region 5. The City of Detroit and citizens living near the facility are opposed to use of the wells for commercial disposal. The local ABC television affiliate has run investigative reports on the proposed use of the wells. The facility is located in a low income, minority area which qualifies as an environmental justice community. The city and community groups are redeveloping brownfield sites along the Detroit River and have plans for redevelopment of the Detroit Coke site. These plans will not go through if the site is used for commercial waste disposal.

RCRA CORRECTIVE ACTION

Detroit Coke is currently undergoing Resource Conservation and Recovery Act (RCRA) Corrective Action under the authority of its UIC permits. On August 4, 1997, the U.S. EPA sent a Notice of Deficiency to Detroit Coke for its RCRA Facility Investigation (RFI) Workplan. The facility is due to submit a response to the U.S. EPA by October 4, 1997. It is expected that the workplan will be approved and implementation of the RFI will begin by next spring.

One aspect of the investigation will be sediment sampling of the Detroit and Rouge rivers to determine if coal tar and other contaminants have been released from the site. During the week of October 20th, 1997, members of the EPA and Michigan Department of Environmental Quality will utilize the Great Lakes National Program's boat to conduct sediment coring and video investigation of the river bottoms. The results of this investigation will be used to define the scope of Corrective Action activities that Detroit Coke must perform for the Detroit and Rouge Rivers. Clean up of the rivers at this site is one of the lead activities in implementation of the Detroit River Remedial Action Plan.

FUTURE ACTIONS

The EPA is planning a series of meetings with the public, elected officials, and the media during the week of October 20 to explain the UIC permitting program and site clean up activities. The UIC permit review process is continuing, including consideration of the environmental justice aspects of the proposed action. Site investigation and clean up activities continue on schedule.

CONTACTS

Allen Melcer	(UIC)	6-1498
Greg Rudloff	(RCRA)	6-0455

DETROIT COKE CORRECTIVE ACTION STATUS 3/23/98

BACKGROUND

Detroit Coke is a former coking facility occupying 60 acres at the confluence of the Detroit and Rouge rivers in southwest Detroit, Michigan, adjacent to the Zug Island industrial complex. Detroit Coke produced waste ammonia liquor as a by-product of the coking process, and disposed of the ammonia liquor on-site into three permitted Underground Injection Control (UIC) wells. Detroit Coke is currently undergoing RCRA Corrective Action under the authority of its UIC permits.

In September of 1990, the Detroit Coke facility was closed down. The facility is located in a low income, minority area which qualifies as an environmental justice community. The city and community groups are redeveloping brownfield sites along the Detroit River and have plans for redevelopment of the Detroit Coke site. The City of Detroit has expressed interest in having the Environmental Response Division (ERD) of the MDEQ, the state equivalent to Superfund, take over the site in order to expedite corrective action. However, in a conference call on December 9, 1997, ERD indicated that they did not intend to get involved in the site (other than advising the city) since there was a responsible party proceeding with corrective action under a UIC permit.

On January 2, 1998, the site was repossessed by the State of Michigan due to non-payment of taxes. The State does not have clear title, however, because Allied-Signal and a number of other entities have liens against the property, and have not received notification of their right of redemption. Allied-Signal has indicated to the EPA that it intends to exercise its right of redemption and, after foreclosing on Detroit Coke, take possession of the property. Allied-Signal is continuing with Corrective Action and, after the site is cleaned, intend to sell the site. Allied plans to keep the UIC wells operational so that they can be used for corrective action and as an asset in marketing the site.

CURRENT RCRA CORRECTIVE ACTION ACTIVITY

Allied Signal submitted a revised RCRA Facility Investigation (RFI) Work Plan to Region 5 on February 10, 1998. The USEPA was reviewing the workplan until we became aware of the ERD investigation (see below). The QAPP for the workplan will be reviewed, however we plan on directing Allied Signal to fill in any data gaps left by the ERD investigation, rather than continue to review and comment on the remainder of the RFI Workplan.

CURRENT ERD ACTIVITY

On February 26, 1998, Allied Signal notified EPA of an investigation that was being conducted at the Detroit Coke Site. After a series of phone calls, it turned out that ERD was conducting a site-wide investigation at the request of the city. ERD had not notified Detroit Coke, Allied Signal, or EPA of the investigation. At a meeting and site visit on March 3, 1998, ERD explained that they wanted to move quickly with the investigation, and that notifying anyone might cause discussion that would slow the project. In addition, ERD felt there was no need to notify anyone since it was their understanding that the property had reverted to the State. ERD stated that they would send a copy of the completed investigation to EPA in April, 1998. ERD explained that the purpose of the investigation was to assess the contamination level and determine the feasibility of locating cement silos on the property (which the city would like to do). ERD stated that they had no intention of cleaning up the site. However later in the meeting, ERD asked if EPA would consider an ERD led cleanup to Act 201 standards as meeting the requirements of RCRA Corrective Action. ERD stated they may pursue this option if RCRA Corrective Action proceeds too slowly.

The corrective action is being performed under the authority of the Federal UIC program. The Waste Division contends that it is Water Division's responsibility to decide if corrective action at this site will be given to MDEQ ERD. However, since the UIC permit is a RCRA permit by rule, permitted corrective action is implemented under the RCRA regulations, authority for which have been delegated to the State. USEPA has not conferred the authority to issue RCRA corrective action orders to MDEQ. MDEQ's Waste Management program (State RCRA program) does not want to oversee the site, and in fact, does not recognize the site as a RCRA site.

ISSUES

1. Who has authority to give oversight of the corrective action to ERD? UIC? Waste Division? MDEQ Waste Management?
2. Whether the ERD and the City have the authority to inspect the facility without providing notification to parties that have a property interest in the site? Is ERD and the City in contravention of USEPA's Corrective Action process?
3. Corrective Action is being required under the Federal UIC permits and the UIC program has not been delegated in Michigan. What is the mechanism for requiring corrective action if the site is given to ERD?
4. Should EPA allow a facility to undergo Corrective Action under a non-federally enforceable and less stringent state law (Act 201) as a substitute for RCRA?
5. Will EPA accept Act 201 cleanup standards (currently being revised) for RCRA Corrective Action?
6. Will EPA accept data generated by ERD with no QAPP or workplan (workplan was only 4 pages) review?
7. ERD and the city operating autonomous of the facility and EPA are complicating the RCRA Corrective Action process.
8. Public participation may be required for such a departure from normal RCRA Corrective Action.
9. ERD has stated that there will be no attempt to cost recover expenses for the current investigation.
10. Environmental groups view this activity as a taxpayer give-away to LaFarge (cement company with storage silos).

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In September of 1990, the Detroit Coke facility was closed down. The facility is located in a low income, minority area which qualifies as an environmental justice community. The city and community groups are redeveloping brownfield sites along the Detroit River and have plans for redevelopment of the Detroit Coke site. The City of Detroit has expressed interest in having the Environmental Response Division (ERD) of the MDEQ, the state equivalent to Superfund, take over the site in order to expedite corrective action. However, in a conference call on December 9, 1997, ERD indicated that they did not intend to get involved in the site (other than advising the city) since there was a responsible party proceeding with corrective action under a UIC permit.

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CONTACTS

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Greg Rudloff (RCRA) 6-0455

DETROIT COKE RESPONSE TO RFI WORKPLAN NOD

BACKGROUND

The Detroit Coke facility, located at the confluence of the Detroit and Rouge rivers, is in southwest Detroit, adjacent to the Zug Island industrial complex. Detroit Coke was a coking facility that produced waste ammonia liquor as a by-product of the coking of coal. This wastestream was disposed of into three on-site Class I hazardous waste injection wells completed in the Munising Formation. The three wells were constructed and operated between 1969 and 1990.

In September of 1990, the Detroit Coke facility was closed down. Since that time, the three injection wells have been used for disposing of ammonia liquor left in tanks at the time of shut down, and for disposing of rainwater which collects on site and in diked areas. In June, 1995, waste disposal well #1 was plugged. The facility is located in a low income, minority area which qualifies as an environmental justice community. The city and community groups are redeveloping brownfield sites along the Detroit River and have plans for redevelopment of the Detroit Coke site

Detroit Coke is currently undergoing Resource Conservation and Recovery Act (RCRA) Corrective Action under the authority of its UIC permits. On August 4, 1997, the U.S. EPA sent a Notice of Deficiency to Detroit Coke for its RCRA Facility Investigation (RFI) Workplan. The facility is due to submit a response to the U.S. EPA by November 4, 1997. It is expected that the workplan will be approved and implementation of the RFI will begin by next spring.

RECENT EPA ACTIVITY

On October 22-24, a side-scan sonar survey, video survey, and sediment sampling were conducted in the Rouge River off of the Detroit Coke facility. No visual signs of contamination were identified during the investigation. The results of this study will be used to direct further investigation during the RFI. Clean up of the rivers at this site is one of the lead activities in implementation of the Detroit River Remedial Action Plan.

MAJOR ELEMENTS OF DETROIT COKE'S RESPONSE

Detroit Coke would like to replace its RCRA Corrective Action requirements with a Brownfields Redevelopment Plan. Detroit Coke proposes that the scope of work for the RFI be replaced by the following:

- Remove remaining coal tar in secondary containment structure for the tar storage tanks;
- Remove remaining surface structures at the facility;
- Consolidate all visually contaminated soils to the tar tank area;
- Cap the tar tank area with 2 feet of clay;
- Regrade the site;
- Establish a ground water monitoring system;
- Develop institutional controls; and
- Do additional soil sampling and a risk assessment only if needed based upon conditions encountered during the previous steps.

In addition, Detroit Coke proposes that the possibility of transferring corrective action for the site to Michigan's Site Reclamation Program (Act 201) and applying for assistance from the REUS Action Team.

↳ Jim Litton - grants to local govt, need developer lined up. Not for sites w/ PRPs or where PRP would benefit. Chief Site Reclamation & List Unit.

ISSUES

- Brownfield projects are generally excluded at sites where there is an existing regulatory mechanism (such as a UIC permit) to address contamination.
- Allowing a facility to avoid RCRA Corrective Action through a Brownfields approach would establish an unfavorable precedent.
- The proposal includes no additional site characterization to support the remedy as being protective of the environment.
- Consolidation of impacted soils could violate LDRs and require a CAMU.
- Lack of characterization could hamper redevelopment.
- The criteria that would trigger additional soil sampling and a risk assessment are unacceptably vague.
- There may not be a legal mechanism to transfer the Corrective Action authority to Michigan.
- Public/elected official participation would be required for such a departure from normal RCRA Corrective Action.

CONTACTS

Allen Melcer	(UIC)	6-1498
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DETROIT COKE COMMERCIAL INJECTION WELL OPERATION AND SITE CLEAN-UP, DETROIT, MI

BACKGROUND

The Detroit Coke facility, located at the confluence of the Detroit and Rouge rivers, is in southwest Detroit, adjacent to the Zug Island industrial complex. Detroit Coke was a coking facility that produced waste ammonia liquor as a by-product of the coking of coal. The wastestream was disposed of into three on-site Class I hazardous waste injection wells completed in the Munising Formation. The three wells were constructed and operated between 1969 and 1990.

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On March 26, 1996, Detroit Coke submitted an application to Region 5 for renewal of their two Underground Injection Control (UIC) permits. The permits are for two existing deep injection wells to allow for the disposal of potentially hazardous contaminated waters as part of the Corrective Action clean-up of the site and to continue disposal of rain water that collects on site. On August 15, 1996, Detroit Coke submitted an addendum to the application requesting that the new permits, if issued, authorize the use of the wells for commercial disposal of liquid non-hazardous wastes. Detroit Coke has applied for hazardous waste disposal permits in case the contaminated ground water is hazardous.

Although Detroit Coke is applying for hazardous waste disposal permits, if the permits are granted they must still apply for and receive an exemption to the land disposal ban before they can commence injection of hazardous waste. They are currently applying for commercial disposal of non-hazardous wastes only, however, they can request authorization for commercial disposal of hazardous waste in the future.

CURRENT STATUS

The UIC permit applications are currently under review by Region 5. The City of Detroit and citizens living near the facility are opposed to use of the wells for commercial disposal. The local ABC television affiliate has run investigative reports on the proposed use of the wells. The facility is located in a low income, minority area which qualifies as an environmental justice community. The city and community groups are redeveloping brownfield sites along the Detroit River and have plans for redevelopment of the Detroit Coke site. These plans will not go through if the site is used for commercial waste disposal.

RCRA CORRECTIVE ACTION

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One aspect of the investigation will be sediment sampling of the Detroit and Rouge rivers to determine if coal tar and other contaminants have been released from the site. During the week of October 20th, 1997, members of the EPA and Michigan Department of Environmental Quality will utilize the Great Lakes National Program's boat to conduct sediment coring and video investigation of the river bottoms. The results of this investigation will be used to define the scope of Corrective Action activities that Detroit Coke must perform for the Detroit and Rouge Rivers. Clean up of the rivers at this site is one of the lead activities in implementation of the Detroit River Remedial Action Plan.

FUTURE ACTIONS

The EPA is planning a series of meetings with the public, elected officials, and the media during November or December to explain the UIC permitting program and site clean up activities. The UIC permit review process is continuing, including consideration of the environmental justice aspects of the proposed action. Site investigation and clean up activities continue on schedule.

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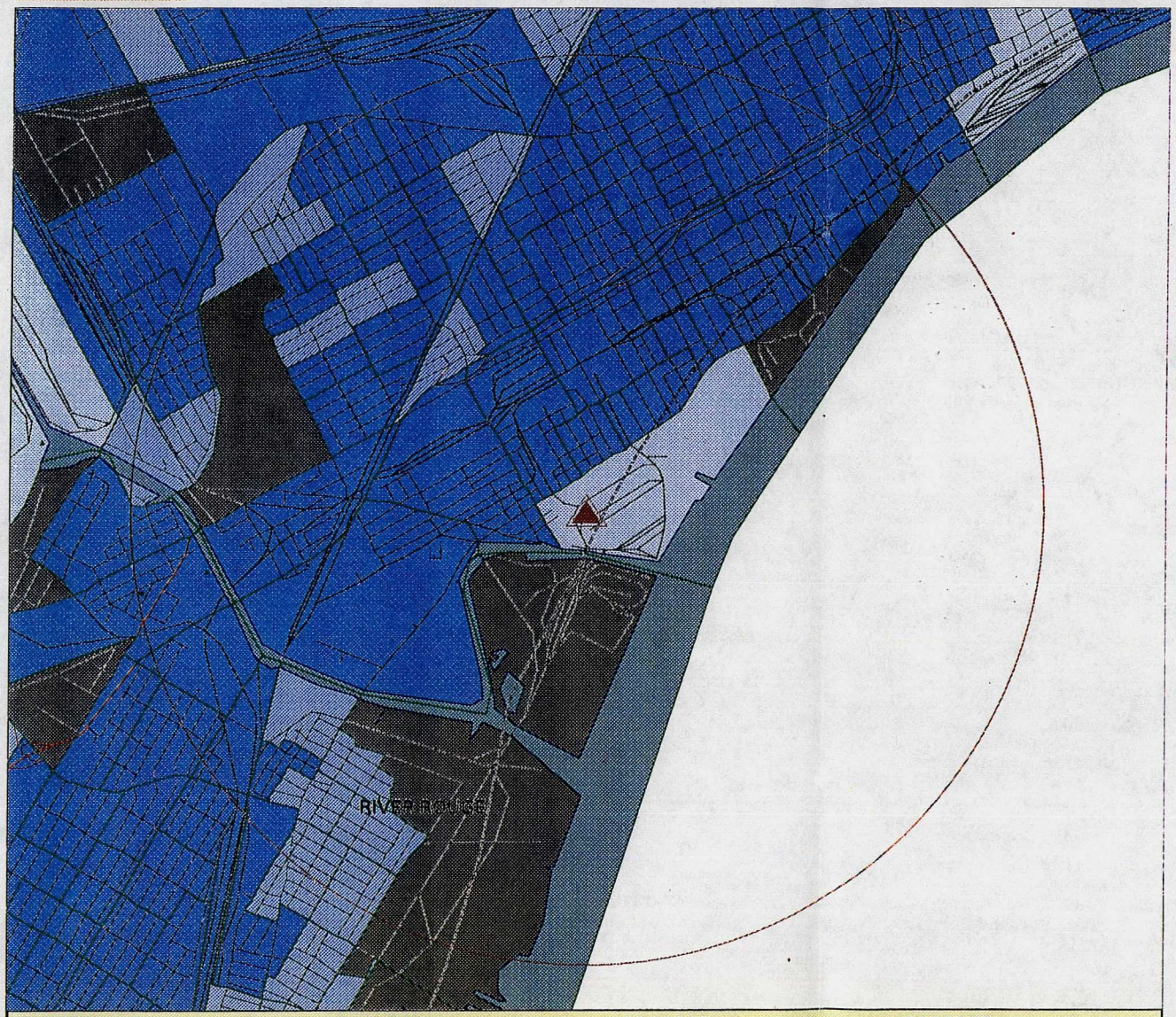
Region 5
Office of Information Services

Detroit Coke

Census Blocks within Two Miles of Detroit Coke



- Facility
- Interstate Highway
- Primary Road
- County Road
- Neighborhood Road
- Railroad
- Perennial Stream
- Drain or Intermittent Stream
- County Border
- Block Group Boundary

Region 5 EJ Guidelines

- Low Income and Minority Less than or equal to State Percentage
- Low Income or Minority Greater than State Percentage but less than twice State Percentage
- Low Income or Minority Equal to or greater than twice State Percentage
- Uninhabited or No Data
- Water

Population are considered in the low income group when the household income is less than double the poverty level. Minorities are considered everyone but white non-hispanic.

The data are summarized at the block group level, from 1990 STF3A data.

TOTAL POPULATION 39,602	PERCENT MINORITIES 37.3	PERCENT POVERTY 37.4	PERCENT NATIVE POPULATION 1.1
PERCENT LOW INCOME 61.3	PERCENT CHILDREN 12.2	PERCENT NO ENGLISH 5.9	PERCENT HOUSING PRE 1980 99.6

State Low Income Population Percentage: 28 State Minority Population Percentage: 18

State of Illinois
ENVIRONMENTAL PROTECTION AGENCY

Mary A. Gade, Director

2200 Churchill Road, Springfield, IL 62794-9276

June 25, 1997

Mr. Gerald W. Phillips
Waste, Pesticides and Toxics Division
United States Environmental Protection Agency
Region V
77 West Jackson Boulevard
Chicago, Il 60604-3590

Dear Mr. Phillips:

I have enclosed a signed copy of the RCRA Memorandum of Understanding (MOU) between the Illinois EPA and U.S. Environmental Protection Agency Region 5. Finalization of this MOU not only strengthens the working relations between our agencies, but establishes yet another tool to address environmental cleanup and industrial redevelopment in Illinois.

Thank you for your assistance during the drafting, review and negotiation of this MOU. Your insight and dedication to the creation of the MOU was most helpful. Please contact Steve Colantino or me at 217/785-9407 if you have any questions or comments.

Sincerely,

Gary P. King

Gary P. King, Manager
Division of Remedial Management

Memorandum of Understanding
between
the Illinois Environmental Protection Agency
and
the United States Environmental Protection Agency Region 5
on
the Illinois Site Remediation Program,
the Illinois Tiered Approach to Corrective Action Objectives,
and
the Environmental Remediation Programs
administered by
the Region 5 Waste, Pesticides, and Toxics Division
under
the Resource Conservation and Recovery Act (RCRA)
and
the Toxic Substances Control Act (TSCA)

I. Introduction

The Illinois Environmental Protection Agency ("Illinois EPA") and the United States Environmental Protection Agency, Region 5 ("Region 5") entered a Memorandum of Agreement ("MOA") under the Resource Conversation and Recovery Act ("RCRA") Subtitle C, effective January 31, 1986. Illinois EPA and Region 5 have periodically modified that MOA to reflect authorization changes. Among other things, the RCRA MOA established operating procedures for general RCRA program coordination and communication under Subtitle C between Illinois EPA and Region 5. Illinois EPA and Region 5 do not have a general operating MOA under Subtitle I, but have maintained a continuous working relationship under successive co-operative agreements since 1987.

On April 6, 1995 the Illinois EPA and Region 5 entered Superfund Memorandum of Agreement, Addendum No.1. That agreement specifies how the Illinois EPA Pre-Notice Site Cleanup Program, precursor of the Site Remediation Program referenced in this MOU, intersects with administration of the Superfund program by Region 5 and Illinois EPA.

Effective December 21,1995, the Environmental Protection Act of the State of Illinois was amended to add Title XVII: Site Remediation Program (415 Illinois Compiled Statutes 5/58 - 58.12). Title XVII was amended effective June 30, 1996. The Illinois EPA and Region 5 have agreed to establish this Memorandum of Understanding ("MOU") for the following purposes:

(1) to encourage voluntary environmental cleanup, which is protective of human health and the environment, at contaminated locations in Illinois;

(2) to establish how the State of Illinois Site Remediation Program intersects with RCRA and the Toxic Substances Control Act ("TSCA"), as administered by the Waste, Pesticides, and Toxics Division of Region 5; and

(3) to recognize the Illinois EPA's use of the Tiered Approach to Corrective Action Objectives (35 Ill. Adm. Code 742) for sites subject to RCRA or the TSCA[1].

This MOU is not intended to alter any other existing agreements between Region 5 and Illinois EPA, including the Memorandum of Agreement authorizing administration of the State's RCRA Subtitle C program.

II. Background

The Illinois EPA and Region 5 recognize that revitalization of contaminated property provides a significant benefit to both the environment and the economy. This is especially true for "brownfields". The term "brownfields" refers to properties which are abandoned, idled, or under-used industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination. Some of the contaminated properties in Illinois, including some brownfields, are subject to environmental cleanup requirements which are established by Federal laws (e.g., closure, post-closure, and corrective action under RCRA; PCB Cleanup Policy under TSCA; the National Oil and Hazardous Substances Pollution Contingency Plan under the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA")).

Both Illinois EPA and Region 5 are mandated to protect human health and the environment and both play a critical role in Illinois in the cleanup and redevelopment of brownfields. Each Agency acknowledges the potential benefits that can be achieved by clarifying the liabilities associated with brownfields as a result of environmental cleanup requirements in both State and Federal laws. Both agencies recognize each other as key partners in addressing the perceived uncertainties in the financing, transfer and development of brownfields. Both agencies seek to facilitate the productive use of their authorities and resources in ways that are mutually complementary and are not redundant. Both Region 5 and Illinois EPA acknowledge their mutual respect, positive working relationship and commitment to the successful implementation of the MOU. In particular, both agencies seek to protect human health and the environment by:

(1) Promoting appropriate voluntary investigations and cleanups of brownfields in Illinois.

(2) Developing partnerships between Region 5, Illinois EPA, other Federal, State, local governmental agencies and other stakeholders, including representatives from the private sector and citizen/community groups, for the cleanup and redevelopment of brownfields.

(3) Providing information and technical assistance to the key stakeholders to allow for informed decision making by property owners, prospective purchasers, lenders, public and private developers, citizens, municipalities, counties and elected officials.

[1]Facilities which perform PCB cleanups under this MOU must, at this time, be limited to TACO Tier 1 cleanup due to regulatory limitations under the preemption provisions of Section 18 of TSCA and the applicable PCB disposal rules and polices (e.g. U.S. EPA's Spill Cleanup Policy, 40 CFR 761 Subpart G). Upon adoption of the pending amendments to TSCA PCB rules, Region V EPA anticipates modifying this MOU to include PCB cleanups under Tiers 2 and 3 of TACO.

(4) Ensuring remediation of sites that protects human health and the environment and promoting revitalization of contaminated property for an appropriate use.

(5) Promoting processes by which corrective action activities and consistent cleanup objectives are carried out.

III. Illinois EPA Administration of Title XVII

Illinois EPA's administrative responsibilities under Title XVII are divided into several subject matters, two of which directly pertain to the purposes of this MOU. First, Illinois EPA is directed to administer a program that provides standards and procedures for remediation activities for sites voluntarily entering the Site Remediation Program. (See Sections 58.6,58.7,58.8,and 58.10). These standards and procedures are set forth in 35 Ill. Adm. Code 740. Second, Illinois EPA is directed to establish, through the Illinois Pollution Control Board, risk-based remediation objectives. (See Section 58.5). These standards are incorporated in 35 Ill. Adm. Code 742.

A. Site Remediation Program (35 Ill. Adm. Code 740)

Under Title XVII, any "remediation applicant"[2] who proceeds under the Title may choose to have the Illinois EPA review and approve any of the remediation objectives for any or all of the "regulated substances of concern"[3] by submitting plans and reports to Illinois EPA. Illinois EPA then carries out its review in conformance with Title XVII and its rules. Illinois EPA may approve, disapprove, or approve with conditions, a plan or report. Under Title XVII, Illinois EPA administers the Site Remediation Program using 35 Ill. Adm. Code 740. Part 740, in turn, requires remediation objectives to be established in accordance with 35 Ill. Adm. Code 742. Part 740 allows sites to enter the Site Remediation Program to the extent allowed by federal law, federal authorization, or by other federal approval, such as through this MOU.

In the case of Illinois EPA approving, or approving with conditions, a plan or report, Illinois EPA prepares a document known as a "No Further Remediation Letter." Within 45 days of a remediation applicant's receipt of such a letter, the remediation applicant must submit the letter to the Office of the Recorder or the Registrar of Titles of the County in which the site is located. When the letter is accepted and recorded in accordance with Illinois law so that it forms a permanent part of the chain of title for the site, the letter becomes effective. The remediation applicant then submits a copy of the letter, as recorded, to the Illinois EPA.

The Illinois EPA's issuance of the No Further Remediation Letter signifies a release from further responsibilities under the State of Illinois Environmental Protection Act in performing the

[2]"Remediation Applicant" means any person seeking to perform or performing investigative or remedial activities under Title XVII, including the owner or operator of the site or persons authorized by law or consent to act on behalf of or in lieu of the owner or operator of the site.

[3]"Regulated substance of concern" means any contaminant that is expected to be present at the site based upon past and current land uses and associated releases that are known to the "Remediation Applicant" based upon reasonable inquiry.

approved remedial action and shall be considered prima facie evidence that the site does not constitute a threat to human health and the environment and does not require further remediation under that act, so long as the site is maintained and utilized in accordance with the terms and conditions of the No Further Remediation Letter.

B. Tiered Approach to Corrective Action Objectives ("TACO") (35 Ill. Adm. Code 742)

TACO establishes a comprehensive tiered approach to the development of remediation objectives at sites evaluating cleanup needs in Illinois. This approach sets forth five independent methodologies for use, singly or in combination, in developing methodologies. The centerpiece of TACO is a set of Tier 1 baseline objectives for residential and commercial uses that were drawn directly from the technical concepts and principles established by USEPA's final "Soil Screening Guidance: User's Guide", EPA/540/R-96/018,PB96-963505 (April 1996)). TACO is used by the Illinois EPA in developing remediation objectives for remediation activities under the following programs:

(1) Leaking Underground Storage Tanks (35 Ill. Adm. Code 731 and 732);

(2) Site Remediation Program (35 Ill. Adm Code 740); and

(3) RCRA Part B Permits and Closure Plans (35 Ill. m. Code 724 and 725).

IV. Eligibility for Site Remediation Program Under 35 Ill. Adm. Code 740

This agreement approves the use of 35 Ill. Adm. Code 740 with regards to contaminated properties in Illinois subject to RCRA or TSCA except for the following:

(1) facilities which are required to have RCRA permits[4] issued by either (i) Illinois EPA, (ii) U.S. EPA, or (iii) both agencies;

(2) sites at which investigation or remedial action has been required by a Federal court order or an order issued by the U.S. EPA. Such orders include orders or consent agreement and consent orders issued under:

- Section 3008(a), 3008(h), 3013, 7003, or 9003(h) of RCRA;
- Section 16 of TSCA; and
- Sections 106,107,120, and 122 of CERCLA;

(3) units, and associated releases from such units, at which treatment, storage, or disposal of hazardous waste has occurred after November 19, 1980, and whose owners and operators

[4]RCRA Subtitle C permits for the treatment, storage or disposal of hazardous waste shall require corrective action for all releases of hazardous waste or constituents from any solid waste management unit at the permitted facility, regardless of the time at which waste was placed in the unit. Illinois EPA is authorized by U.S. EPA to issue, administer, and enforce such permits. U.S. EPA may also enforce such permits.

are required to (and have not yet) plan, conduct and certify closure and, if necessary, post-closure monitoring and maintenance pursuant to Subtitle C of RCRA;

(4) properties which are the subject of an order or a consent agreement and consent order proposed to be issued by Region 5 under section 3008(a), 3008(h), 3013, 7003, or 9003(h) of RCRA; or section 16 of TSCA;

(5) properties approved by, or seeking the approval of, U.S. EPA under TSCA (40 CFR Part 761, Subpart D) for the disposal or commercial storage or polychlorinated biphenyls (PCBs);

(6) sites listed in the CERCLA National Priorities List (40 CFR Part 300, Appendix B); and

(7) sites subject to 35 Ill. Adm. Code 807, 810-817, or 830-832 that have not satisfied all development, operation, and closure requirements (including postclosure) applicable under 35 Ill. Adm. Code 807, 810-817, or 830-832.

V. Principles

A. Although nothing in this MOU constitutes a release from liability under applicable Federal law, generally Region 5 does not anticipate taking any federal environmental cleanup action under RCRA or TSCA at a site, or portion thereof where the Illinois EPA has approved a remediation as having met the requirements of 35 Ill. Adm. Code 742 through:

(1) a "No Further Remediation" letter issued pursuant to 35 Ill. Adm. Code 731, 732 or 740;

(2) a Part B permit issued pursuant to 35 Ill. Adm. Code 724; or

(3) a closure certification approval issued pursuant to 35 Ill. Adm. Code 724 or 725.

This principle shall not apply if Region 5 determines that there may be an imminent and substantial endangerment to public health, welfare or the environment at a site, or portion thereof, where Illinois EPA has approved a remediation as having met the requirements of 35 Ill. Adm. Code 742. This principle shall not apply if the letter, permit or approval ceases to be in effect. If, following the issuance of the No Further Remediation Letter, permit or approval by Illinois EPA, conditions at the site previously unknown to Illinois EPA and/or Region 5 indicate that the response action undertaken is not protective of human health and the environment, Illinois EPA and Region 5 reserve the right to take necessary response action to protect human health and the environment.

B. Pursuant to this MOU, Region 5 approves the use of 35 Ill. Adm Code 740 for sites subject to RCRA or TSCA only at eligible sites. In this light, Region 5 acknowledges the use of 35 Ill. Adm. Code 740, in conjunction with the applicable requirements of 35 Ill. Adm. Code 731 or 732, for remediation of sites subject to RCRA Subtitle I, as long as the remediation meets the requirements of 35 Ill. Adm. Code 742.

VI. Reporting

Upon request, Illinois EPA will provide to Region 5 the following:

(1) The name and location of sites with regard to which remediation applicants are seeking Illinois EPA review and approval pursuant to 35 Ill. Adm. Code 740; and

(2) The Illinois EPA review status of applications, and the status of remediation applicants' compliance with plans or reports approved, disapproved, or approved with conditions, by Illinois EPA pursuant to 35 Ill. Adm. Code 740.

To the extent practicable, for those sites identified by the Illinois EPA pursuant to VI,(1), Region 5 will provide notice to Illinois EPA in an enforcement confidential manner when U.S. EPA is proposing to issue an environmental cleanup order under Section 3008(a), 3008(h), 3013, 7003, or 9003(h) of RCRA; or Section 16 of TSCA.

VII. Reservation of Rights

Notwithstanding any provision in this MOU, Region 5 and Illinois EPA reserve any and all rights or authority that they respectively have and nothing in any provision of this MOU limits or affects the authority or ability of either Agency to take any action authorized by law.

This MOU will be reviewed on an annual basis by Region 5 and Illinois EPA. In addition, at the request of either Agency, this MOU may be reevaluated and modified as appropriate.

VIII. Signatures

This MOU has been developed by mutual cooperation and consent, and hereby becomes an integral part of Illinois EPA's and Region 5's working relationship. The effective date of this MOU is July 1, 1997.

For the Illinois Environmental Protection Agency

Mary A. Gade — 6/23/97

Director
Illinois Environmental Protection Agency

Date

For the U.S. Environmental Protection Agency

David A. Ullrich — June 13, 1997

Acting Regional Administrator
U.S. Environmental Protection Agency, Region 5

Date

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5

Date: MAY 04 1992

Subject: **Request for RCRA Support for Remedial Facility Investigation**

From: Edward P. Watters, Chief
Safe Drinking Water Branch (WD-17J)

To: Karl E. Bremer, Chief
RCRA Permitting Branch (HRP-8J)

It has been determined that the assistance of the RCRA Michigan Section is required in the matter of conducting a remedial facility investigation at the Detroit Coke facility in Detroit, Michigan. The following paragraph outlines why such assistance is needed.

Detroit Coke announced that they were ceasing operations and closing the plant in September, 1991. Their hazardous waste injection wells are currently in temporarily abandoned status while the company decides on a course of action. The remedial facility investigation was submitted by Detroit Coke in November of 1991, in order to fulfill the requirements of their Underground Injection Control (UIC) permits. Members of the UIC Section have reviewed the report and are preparing a letter to Detroit Coke requesting some clarifications. As the UIC Program does not have much experience in reviewing and processing remedial facility investigations, we would appreciate input from your program on the content and on procedures for processing the investigation. Attached for your review is a copy of the remedial facility investigation along with additional information sent by Detroit Coke after the original submittal.

The permit writer assigned to this site is Allen Melcer, who can be contacted at 886-1498. Please notify him as soon as this project is assigned.

Your cooperation in this matter is greatly appreciated.

Attachments